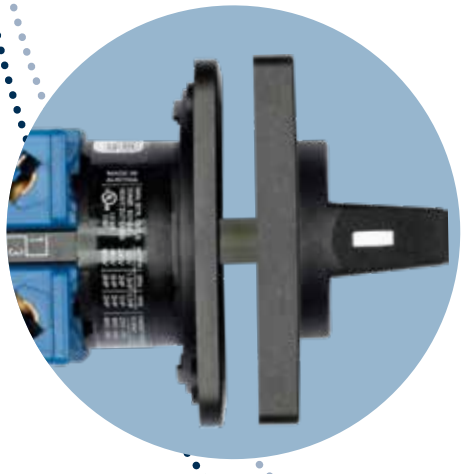
Kraus & Naimer

Control&load

switches including ; on/off double-throw general application coding multi-step voltmeter ammeter volt-ammeter control motor panel/base/mosaic mounted

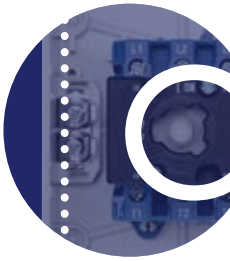


Push button & pilot lights

see pages **86-99**

For free expert advice call our sales team on **01635 26 26 26**

krausnaimer.com



Control&load

The Control & Load Catalogue contains all the detailed product knowledge you need (pages 4-83) and also contains a section for our push button & pilot lights range (pages 84-99) Kraus & Naimer's Blue Line products are accepted and universally recognised for their quality and workmanship.

Kraus & Naimer Limited is part of the worldwide Kraus & Naimer Group which celebrated its 115 year anniversary in 2022.

In 1963, Kraus & Naimer Limited was established as the UK sales and marketing company for Kraus & Naimer switchgear. By the early 70's successful growth meant a move to its current purpose-built premises in Newbury, from which it supplies over 3,000 customers with world-renowned, high quality Blue Line switchgear products.

Our key to success is the outstanding level of technical product support through our dedicated team of internal and external technical sales engineers. With many years experience, training and unbeatable product knowledge the team can find a solution for your switch applications.

You will see that we have started introducing article numbers within the catalogue, a unique 7 or 8 digit code for all of our products. Please start using this number when ordering, where you see it.

Kraus & Naimer

Switch type–Overview

Size	Face plate (mm)	Switch type	Switch angle options	Max. Number of stages
S00	30 x 30	*CG4, CG4-1, CGD4-1*	30°, 45°, 60°, 90°	8
		CA4, CA4-1, CAD4-1	30°, 45°, 60°, 90°	9
		CH6	30°, 45°, 60°, 90°	5
S0	48 x 48	*CH10–CH16, CG8, CA10–CA25, CAD11, DH10, DH11*	30°, 45°, 60°, 90°	12
S1	64 x 64	*CH10B–CH16B, CG8B, CA40–CA63, DH10B, DH11B*	30°, 45°, 60°, 90°	12
S2	88 x 88	*C80, C125, C200-4, CA40C–CA63C*	20°, 30°, 45°, 60°, 90°	12
S3	130 x 130	*C315*	30°, 45°, 60°, 90°	12

Sizes

S00
30 x 30

S0
48 x 48

S1
64 x 64

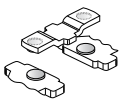
S2
88 x 88

S3
130 x 130

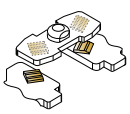
Design features and contact systems

Cam switches are ideal control and load switches. Different contact systems and different contact materials also allow their use in electronic circuits as well as in aggressive environmental conditions. The basic building block of all switches is the stage , which is equipped with 1 or 2 contacts. A contact can be a normally open or normally closed contact.

During switching, they may also overlap, advance, or lag. The contacts are operated via the detent mechanism; latching and touch functions are possible. All switches up to and including CA63 are supplied with the terminals open and finger proof according to EN 50274 and BGV A3. These have captive plus/minus terminal screws and integrated screwdriver guides facilitate wiring.

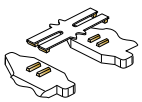


Standard double break with rigid contact bridge and silver point contacts.

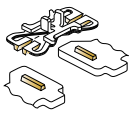


CG4, CG4-1
CA4, CA4-1

High contact reliability due to multiple cross-point contacts, C.4 with 0.5 µ and C.4-1 with 5 µ gold plating.



CH11, CAD11
DH11



CGD4-1
CAD4-1

High contact reliability through H-bridge with "cross-wire" contact system.
Contacts with gold plating for use even at low voltage, low current (compatible with electronic signals) as well as aggressive environmental influences.

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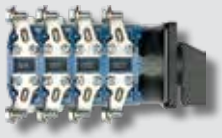
Switch type / Electrical data

	Type	Thermal current (Iu/Ith)	Rating 380 V–440 V AC-23A	AC-3	Face plate size	Standard type	Contact with gold plating	Screwdriver back	Screwdriver side	Enclosed contact chambers
	CG4	10 A	3 kW	2,2 kW	☐ 30 mm S00	●		●		
	CG4-1	10 A	3 kW	2,2 kW	☐ 30 mm S00		●	●		
	CGD4-1	5 A			☐ 30 mm S00		● H-bridge	●		
	CAD4-1	5 A			☐ 30 mm S00		● H-bridge		●	
	CA4	10 A	3 kW	2,2 kW	☐ 30 mm S00				●	
	CA4-1	10 A	3 kW	2,2 kW	☐ 30 mm S00		●		●	
	CH6	20 A	7,5 kW	5,5 kW	☐ 30 mm S00			●		
	CH10	20 A	7,5 kW	5,5 kW	☐ 48 mm S0	●		●		
	CH10B	20 A	7,5 kW	5,5 kW	☐ 64 mm S1			●		
	CG8	20 A	7,5 kW	5,5 kW	☐ 48 mm S0			●		
	CG8B	20 A	7,5 kW	5,5 kW	☐ 64 mm S1			●		
	CA10 [1]	20 A	7,5 kW	5,5 kW	☐ 48 mm S0				●	
	CA10B [1]	20 A	7,5 kW	5,5 kW	☐ 64 mm S1				●	
	CA11 [1]	20 A	7,5 kW	5,5 kW	☐ 48 mm S0				●	
	CA11B [1]	20 A	7,5 kW	5,5 kW	☐ 64 mm S1				●	
	CH11	6 A			☐ 48 mm S0		● H-bridge	●		
	CAD11	6 A			☐ 48 mm S0		● H-bridge		●	
	DH10	16 A	5,5 kW	3,7 kW	☐ 48 mm S0				●	●
	DH10B	16 A	5,5 kW	3,7 kW	☐ 64 mm S1				●	●
	DH11	6 A			☐ 48 mm S0		● H-bridge		●	●
	DH11B	6 A			☐ 64 mm S1		● H-bridge		●	●
	CH16	25 A	11 kW	7,5 kW	☐ 48 mm S0	●		●		
	CH16B	25 A	11 kW	7,5 kW	☐ 64 mm S1			●		
	CA20	25 A	11 kW	7,5 kW	☐ 48 mm S0				●	
	CA20B	25 A	11 kW	7,5 kW	☐ 64 mm S1				●	
	CA25	32 A	15 kW	11 kW	☐ 48 mm S0	●			●	
	CA25B	32 A	15 kW	11 kW	☐ 64 mm S1				●	

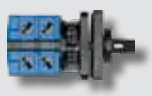
[1] UL: CA10 / CA10B U_i = 300 V, CA11 / CA11B U_i = 600 V

Switch type / Electrical data

	Type	Thermal current (Iu/Ith)	Rating 380 V–440 V AC-23A	Rating 380 V–440 V AC-3	Face plate size	Standard type	Contact with gold plating	Screwdriver back	Screwdriver side	Enclosed contact chambers
	CA40 CA40C	40 A	18,5 kW	15kW	☐ 64 mm S1 ☐ 88 mm S2	●				
	CA50 CA50C	50 A	22 kW	18,5 kW	☐ 64 mm S1 ☐ 88 mm S2	●				
	CA63 CA63C	63 A	30 kW	18,5 kW	☐ 64 mm S1 ☐ 88 mm S2	●				
	C80	115 A	45 kW	30 kW	☐ 88 mm S2	●				
	C125	150 A	75 kW	37 kW	☐ 88 mm S2	●				
	C200-4	200 A	75 kW	37 kW	☐ 88 mm S2	●				
	C315	315 A	132 kW	55 kW	☐ 130 mm S3	●				

	CA4-4 CH...-4/-6 DH...-4/-5	up to 25 A			☐ 30 mm S00 ☐ 48 mm S0 ☐ 64 mm S1	**Switches with quick connectors** on request. For switch size dimensions see page 41.

Switches for specific usage and DC switches

	Type	Thermal current (Iu/Ith)	
	A... AD...	up to 25 A	Control switch from 13 switch positions and up to 48 contacts
	L....	up to 2400 A	Load break switches from 350 up to 2400 A
	..R	up to 25 A	Control switch with ring type terminal
	DK...	up to 16 A	Control switch to push and rotate
	G20 G20S	up to 20 A DC	DC switch up to 1000 V / 20 A with snap on latching and knife contacts. Also suitable for low voltage and low current application.

Switch type according IEC 60947-3, EN 60947-3, VDE 0660 part 107 (USA/Canada next double page)

Electrical data					CG4 CA4	DH10/B	CH6 CH10/B	CG8/B CA10/B CA11/B	CH16/B	CA20/B	CA25/B
Rated values											
Thermal current I_u/I_{th}				A	10	16	20	20	25	25	32
Insulation voltage U_i [1]				V	440	690	690	690	690	690	690
Rated impulse withstand voltage U_{imp}				kV	4	6	6	6	6	6	6
Rated operational current I_e											
AC-21A	Switching of resistive loads, including moderate overloads			A	10	16	20	20	25	25	32
AC-22A	Switching of combined resistive or low inductive loads, including moderate overloads		220 V–500 V 220 V–440 V 660 V–690 V 500 V	A A A A	10 [B] 10 - -	- - - -	- 20 16 20	20 [E/D] 20 [C] 20 (16 [C]) 20 [C]	- 25 25 25	 25 25 	 32 32
AC-15	Switching of control devices, contactors, valves etc.		110 V 220 V–240 V 380 V–440 V	A A A	2,5 [A] 2,5 1,5	5 5 3	5 6 4	6 [C] 6 4	8 8 5	- 8 5	- 12 6
Rated utilization category											
AC-3	Direct-on-line starting	3-phase, 3-pole	220 V–240 V 380 V–440 V 500 V 660 V–690 V	kW	1,5 2,2 - -	2,2 3,7 3,7 3,7	3 5,5 5,5 5,5	3 5,5 5,5 5,5	4 7,5 7,5 7,5	4 7,5 7,5 7,5	5,5 11 11 11
		1-phase, 2-pole	110 V – 120 V 220 V – 240 V 380 V – 440 V 500 V 660 V–690 V	kW	0,3 0,55 0,75 - -	0,37 1,1 2,2 - -	0,6 2,2 3 3 [F/G] 3 [F/G]	0,6 2,2 3 3 [F/G] 3 [F/G]	1,5 3 3,7 4 3,7	1,5 3 3,7 - -	2,2 4 5,5 - -
AC-4	Direct-on-line starting, reversing, plugging and inching	3-phase, 3-pole	220 V–240 V 380 V–440 V 500 V 660 V–690 V	kW	0,37 0,55 - -	- - - -	0,55 1,5 1,5 1,5	0,55 1,5 1,5 1,5	1,5 3 3 3	1,5 3 3 3	2,5 5,5 5,5 5,5
		1-phase, 2-pole	110 V – 120 V 220 V – 240 V 380 V – 440 V	kW	0,15 0,25 0,5	- - -	0,3 0,75 1,5	0,3 0,75 1,5	0,45 1,1 2,2	0,45 1,1 2,2	0,75 1,5 3
AC-23A	Frequent switching of motors or other high inductive loads	3-phase, 3-pole	220 V–240 V 380 V–440 V 500 V 660 V–690 V	kW	1,8 3 - -	3 5,5 5,5 4	3,7 7,5 7,5 7,5	3,7 7,5 7,5 7,5	5,5 11 11 11	5,5 11 11 11	7,5 15 15 15
		1-phase, 2-pole	110 V – 120 V 220 V – 240 V 380 V – 440 V 500 V 660 V–690 V	kW	0,37 0,75 1,1 - -	0,55 1,5 2,5 - -	0,75 2,5 3,7 4 [F/G] 4 [F/G]	0,75 2,5 3,7 4 [F/G] 4 [F/G]	1,5 3 5,5 5,5 5,5	1,5 3 5,5 - -	2,2 4 7,5 - -
Breaking capacity											
			220 V–240 V 380 V–440 V 660 V–690 V	A A A	50 50 -	- - -		150 150 80		200 200 125	280 250 150
Power loss, resistance to vibration, resistance to shock											
Power loss per pol at I_u				W	0,4	-	1,4	0,9 (0,8 CG8/B)	2,3	0,9	0,7
Resistance to vibration					min. 4 g, 2-100 Hz, 1,6 mm (CG-, CH-, DH-Switch on request)						
Resistance to shock					min. 5 g, 6 ms (CG-, CH-switch 30 ms, DH-Switch on request)						
Short circuit protection											
Max. fuse size		gG-Characteristic		A	10	16	25	25	35	35	35
Rated short-time withstand current		(1 sec. current)		A	60 (90 [A])	120	200	140	250	280	480
Max. Thermal capacity (use Copper wire only)					2 x	2 x	2 x	2 x	2 x	2 x	2 x
Single-core or stranded wire				mm²	1,5	2,5	4	2,5	4	4	6
Flexible wire				mm²	1,5 [B]	2,5	2,5	2,5	2,5	4	4
Flexible wire sleeving in accordance with DIN 46228				mm²	1	1,5	2,5	2,5	2,5	2,5	4
Max. ambient temperature [2, 3]											
open at 100 % I_u/I_{th}					55 °C during 24 hours with peaks up to 60 °C						
enclosed at 100 % I_{the}					35 °C during 24 hours with peaks up to 40 °C						

[1] Valid for lines with common neutral termination, overvoltage category III, pollution degree 3 Values for other supply systems On request | [2] For electromagnetic optional extras see additional data in the chapter **Optional Extras**. | [3] Storage temperature: -40 °C to 85 °C (in case of temperature below -5 °C no shock load permissible). | [4] 90° only in Size S0
[A] Only applies to CG4 | [B] Only applies to CA4 | [C] Only applies to CG8/B | [D] Only applies to CA11/B | [E] Only applies to CA10/B | [F] Only applies to CH10/B | [G] Only applies to CH6

Switch type according IEC 60947-3, EN 60947-3, VDE 0660 part 107 (USA/Canada next double page)

Electrical data					CA40 CA40C	CA50 CA50C	CA63 CA63C	C80	C125	C200-4	C315
Rated values											
Thermal current I_u/I_{th}				A	40	50	63	115	150	200	315
Insulation voltage U_i [1]				V	690	690	690	690	690	690	690
Rated impulse withstand voltage U_{imp}				kV	6	6	6	6	6	6	6
Rated operational current I_e											
AC-21A	Switching of resistive loads, including moderate overloads			A	40	50	63	100	150	200	315
AC-22A	Switching of combined resistive or low inductive loads, including moderate overloads		220 V – 500 V 660 V – 690 V	A A	40 40	50 50	63 63	100 100	150 125	150 125	315 125
AC-15	Switching of control devices, contactors, valves etc.		220 V – 240 V 380 V – 440 V	A A	14 6	16 7	16 7	- -	- -	- -	- -
Rated utilization category											
AC-3	Direct-on-line starting	3-phase, 3-pole	220 V–240 V 380 V–440 V 500 V 660 V–690 V	kW	7,5 15 15 15	11 18,5 18,5 18,5	11 18,5 18,5 22	15 30 30 30	22 37 37 30	22 37 37 30	37 55 55 37
		1-phase, 2-pole	110 V – 120 V 220 V – 240 V 380 V – 440 V 500 V 660 V–690 V	kW	2,5 5,5 7,5 - -	3 6 11 - -	3 6 11 - -	3,7 7,5 13 - -	5,5 11 18,5 - -	5,5 11 18,5 - -	11 22 30 - -
AC-4	Direct-on-line starting, reversing, plugging and inching	3-phase, 3-pole	220 V–240 V 380 V–440 V 500 V 660 V–690 V	kW	3,7 6 6 6	4 7 7 7,5	5,5 7,5 7,5 9	6 11 11 11	10 15 15 15	10 15 15 15	15 25 25 22
		1-phase, 2-pole	110 V – 120 V 220 V – 240 V 380 V – 440 V	kW	1,1 2,2 3,7	1,2 2,4 4	1,2 2,4 4	1,5 3 5,5	2,2 4 7,5	2,2 4 7,5	4 7,5 11
AC-23A	Frequent switching of motors or other high inductive loads	3-phase, 3-pole	220 V–240 V 380 V–440 V 500 V 660 V–690 V	kW	7,5 18,5 18,5 18,5	11 22 22 22	15 30 30 30	30 45 55 45	37 75 90 55	37 75 90 55	75 132 132 37
		1-phase, 2-pole	110 V – 120 V 220 V – 240 V 380 V – 440 V 500 V 660 V–690 V	kW	2,2 4 7,5 - -	2,5 5,5 11 - -	4 10 18,5 - -	5,5 15 22 - -	11 22 37 - -	11 22 37 - -	18,5 37 55 - -
Breaking capacity											
			220 V–240 V 380 V–440 V 660 V–690 V	A A A	290 290 170	330 330 200	440 440 260	860 860 400	1100 1100 490	1100 1100 490	2000 2000 340
Power loss, resistance to vibration, resistance to shock											
Power loss per pol at I_u				W	1	1,8	2,8	5,8	3,8	6,7	17
Resistance to vibration					on request						
Resistance to shock					min. 5g, 30 ms						
Short circuit protection											
Max. fuse size		gG-Characteristic		A	50	63	63	125	200	200	315
Rated short-time withstand current		(1 sec. current)		A	950	950	950	1300	2000	2000	4200
Max. Thermal capacity (use Copper wire only)											
Single core or standard wire				mm²	16	16	16	35	70	95 [4]	185 [4]
Flexible wire				mm²	10	10	10	25	50	95 [4]	150 [4]
Flexible wire with sleeving in accordance with DIN 46228				mm²	10	10	10	25	50		
Max. ambient temperature [2, 3]											
open at 100 % I_u/I_{th}					55 °C during 24 hours with peaks up to 60 °C						
enclosed at 100 % I_{the}					35 °C during 24 hours with peaks up to 40 °C						

Auxiliary contacts M510B

				Size S1 (CA40–CA63)	Size S2 + S3 (C80–C315)
Rated values					
Insulation voltage U_i [1]			V	440	690
Thermal current			A	10	16
AC-21A		Switching of resistive loads, including moderate overloads	A	10	16
AC-15	Rated operational current I_e	220 V / 240 V	A	2,5	6
		380 V / 440 V	A	1,5	3
		500 V	A	-	1,5
Short circuit protection					
Max. fuse size (gG-Characteristic)			A	10	10
Max. Thermal capacity (Use Copper wire only)					
Single-core or stranded wire			mm²	1,5	2,5
Flexible wire without sleeve			mm²	1	2,5
Flexible wire sleeving in accordance with DIN 46228			mm²	1,5	2,5

[1] Valid for lines with common neutral termination, overvoltage category III, pollution degree 3 Values for other supply systems On request | [2] For electromagnetic optional extras see additional data in the chapter **Optional Extras**. | [3] Storage temperature: -40 °C to 85 °C (in case of temperature below -5 °C no shock load permissible). | [4] Cable lug must accept M8 (C200-4) and M12 (C315/C316) screw.

Switch type according USA / Canada

Electrical data					CA4 CG4	DH10/B	CH6 CH10/B	CG8/B CA10/B CA11/B	CH16/B	CA20/B	CA25/B
Thermal current I_U/I_{th}											
				A	10	15	20	16[B]/ 20	25	30	30
Insulation voltage U_i [1]											
				V	300	600	600	300[C]/600	600	600	300
Rated operational current I_e[1]											
Pilot duty			Heavy	VAC	A300	A600	A600	A300[C]/A600	A600	A600	A300
Ampere rating	Resistive or low inductive loads			A	10	15	20	10[B]/20	25	30	30
Max. Thermal capacity (use Copper wire only)					2 x	2 x	2 x	2 x	2 x	2 x	2 x
	Single-core or stranded wire			AWG	14	12	10	12	10	10	8
	AWG wiring without sleeve			AWG	16	14	12	14	12	12	10
Rated utilization category											
	Standard motor load DOL-rating (similar to AC-3)	3-phase 3-pole	110 V–120 V 220 V–240 V 440 V–480 V 550 V–600 V	HP	0,75 1 - -	0,75 1,5 3 3	1,5 3 5 5	1,5 3 (1 [A]) 5[D] 5[D]	2 5 10 10	3 7,5 10 10	5 10 - -
		1-phase 2-pole	110 V–120 V 220 V–240 V 277 V 440 V–480 V 550 V–600 V	HP	0,33 0,75 0,75 - -	0,25 0,5 0,5 1 1	0,5 1 2 2 2	0,5 1 2 (1 [A]) 2[D] 2[D]	1 2 3 5 5	1,5 3 3 5 5	2 5 5 - -
	Heavy motor load Reversing-Rating (similar to AC-4)	3-phase 3-pole	110 V – 120 V 220 V – 240 V 440 V – 600 V	HP	- - -	- - -	0,5 1 3	0,5 1 3[D]	1 2 5	1 2 5	2 3 -
		1-phase 2-pole	110 V – 120 V 220 V – 240 V 277 V 440 V–600 V	HP	- - - -	- - - -	0,17 0,5 0,6 1,5	0,17 0,5 0,6 (0,5 [A]) -	0,33 0,75 1 2	0,33 0,75 1 -	1,5 3 3 -

[1] International standards and approvals, refer to page 65
[A] Only applies to CG8 | [B] Only applies to CG8 | [C] Only applies to CG8 und CA10 | [D] Only applies to CA11/B

Switch type according USA / Canada

Electrical data					CA40 CA40C	CA50 CA50C	CA63 CA63C	C80	C125	C200-4	C315
Thermal current I_u/I_{th}											
				A	45	55	65	100	150	-	240
Insulation voltage U_i [1]											
				V	600	600	600	600	600	-	600
Rated operational current I_e [1]											
Pilot duty			Heavy	VAC	A600	A600	A600	-	-	-	A600
Ampere rating	Resistive or low inductive loads			A	45	55	60	100	150	-	240
Max. Thermal capacity (use Copper wire only)											
	Single-core or stranded wire			AWG	6	6	6	2	2/0		MCM350
	AWG wiring without sleeve			AWG	6	6	6	3	1/0		MCM300
Rated utilization category	**UL / Canada**										
	Standard motor load DOL-rating (similar to AC-3)	3-phase 3-pole	110 V–120 V 220 V–240 V 440 V–480 V 550 V–600 V	HP	7,5 15 25 25	7,5 15 25 30	7,5 15 30 30	10 20 30 40	15 25 40 50	- - - -	30 75 75 60
		1-phase 2-pole	110 V–120 V 220 V–240 V 277 V 440 V–480 V 550 V–600 V	HP	3 7,5 7,5 15 15	3 7,5 7,5 15 20	3 7,5 10 15 20	5 10 10 20 25	7,5 15 15 25 30	- - - - -	15 40 40 50 50
	Heavy motor load Reversing-Rating (similar to AC-4)	3-phase 3-pole	110 V – 120 V 220 V – 240 V 440 V – 600 V	HP	- - -	- - -	- - -	7,5 15 25	10 20 30	- - -	15 30 40
		1-phase 2-pole	110 V – 120 V 220 V – 240 V 277 V	HP	- - -	- - -	- - -	3 7,5 7,5	5 10 10	- - -	7,5 15 15

[1] International standards and approvals, refer to page 65

Auxiliary contact M510B			Size S1 (CA40–CA63)	Size S2 + S3 (C80–C315)
Rated values				
Rated impulse withstand voltage U_{imp}		V	600	600
Thermal current		A	10	10
Pilot duty	Heavy		A600	A600
Ampere rating	Resistive or low inductive loads	A	10	10
Max. Thermal capacity (use Copper wire only)				
	Single-core or stranded wire	AWG	14	12
	Flexible wire without sleeve	AWG	16	14

Switch type according IEC 60947-3, EN 60947-3, VDE 0660 part 107

				CGD4-1 CAD4-1	CG4-1	CA4-1	CH11	CAD11	DH11/B
Thermal current I_u/I_{th}									
			A	5	10	10	6	6	6
Rated impulse withstand voltage U_{imp}									
			kV	on request	4	4	6	6	6
Insulation voltage U_i [1]									
			V	440	440	440	600	600	600
Min. voltage			V	1[7]	on request		1[7]	1	1[7]
Rated operational current I_e									
AC-21A	Switching of resistive loads, including moderate overloads	1 V/6 V	A	5/2	-	-	6/3	6/3	6/3
		12 V/24 V	A	1,2/0,7	-	-	2/1	2/1	2/1
		48 V/60 V	A	0,45/-	-	-	0,8/0,7	0,8/-	0,8/-
		110 V/240 V	A	0,25/0,15	-	-	0,4/0,2	0,4/0,2	0,4/0,2
		300 V/440 V	A	0,13/0,1	-	-	0,13/0,1	0,13/0,1	-/0,1
		500 V/600 V	A	-	-	-	0,08/0,05	0,08/0,05	0,09/0,05
Power loss per pol at I_u									
			W	0,4	0,7	0,9	0,4	0,5	on request
Short circuit protection									
Max. fuse size	gG-Characteristic		A	5 [8]	10	10	6[8]	6	6 [8]
Rated short-time withstand current (1 sec. current)			A	30	90	60	35	35	40
DC switching capacity [5]									
DC-21B	Ohmic circuit	1 V/6 V	A	3/1,2	-/-	-/-	4/2,5	4/2,5	4/2,5
		12 V/24 V	A	0,7/0,4	-/10	-/10	1,5/0,8	1,5/0,8	1,5/0,8
		48 V/60 V	A	0,25/0,2	6/2,5	6/2,5	0,3/0,27	0,3/0,27	0,3/0,27
		110 V/220 V	A	0,13/-	0,7/0,3	0,7/0,3	0,2/-	0,2/0,1	0,2/0,1
		240 V/300 V	A	0,8/0,7	-/-	-/-	0,1/0,07	0,08/-	0,08/-
		440 V/500 V	A	0,05/-	0,2/-	0,2/-	0,05/0,03	-/0,03	0,05/0,04
		600 V	A	-	-	-	0,02	0,02	0,02
Max. Thermal capacity (use Copper wire only)				2 x	2 x	2 x	2 x	2 x	2 x
Single-core or stranded wire			mm^2	1,5	1,5	1,5	4	2,5	2,5
Flexible wire			mm^2	1,5	1,5	1,5	2,5	2,5	2,5
Flexible wire sleeving in accordance with DIN 46228			mm^2	1	1	1	2,5	2,5	1,5
Max. ambient temperature [4, 6]									
open at100 % I_u/I_{th}				55 °C during 24 hours with peaks up to 60 °C					
enclosed at 100 % I_{the}				35 °C during 24 hours with peaks up to 40 °C					

Switch type according USA / Canada

				CGD4-1 CAD4-1	CG4-1	CA4-1	CH11	CAD11	DH11/B
Thermal current I_u/I_{th}									
			A	5	10	10	6	6	6
Insulation voltage U_i [9]									
			V	300	300	300	300	300	600
Rated operational current I_e									
AC-21A	Switching of resistive loads, including moderate overloads	1 V/6 V	A	5/2	-	-	6/3	6/3	-
		12 V/24 V	A	1,2/0,7	-	-	2/1	2/1	-
		48 V/110 V	A	0,45/0,25	-	-	0,8/0,4	0,8/0,4	-
		240 V/300 V	A	0,15/0,13	-	-	0,2/0,13	0,2/-	-
DC switching capacity [5]									
DC-21B	Ohmic circuit	1 V/6 V	A	3/1,2	-/-	-/-	4/2,5	4/2,5	4/2,5
		12 V/24 V	A	0,7/0,4	-/10	-/10	1,5/0,8	1,5/0,8	1,5/0,8
		48 V/60 V	A	0,25/0,2	6/2,5	6/2,5	0,3/0,27	0,3/0,27	0,3/0,27
		110 V/220 V	A	0,13/-	0,7/0,3	0,7/0,3	0,2/-	0,2/0,1	0,2/0,1
		240 V/300 V	A	0,8/0,7	-/-	-/-	0,1/0,07	0,08/-	0,08/-
Max. Thermal capacity (use Copper wire only)				2 x	2 x	2 x	2 x	2 x	2 x
Single-core or stranded wire			AWG	14	14	14	10	12	12
AWG wiring without sleeve			AWG	16	16	16	12	14	14

[1] Valid for lines with common neutral termination, overvoltage category III, pollution degree 3 Values for other supply systems on request | [2] For electromagnetic optional extras see additional data in the chapter **Optional Extras**. | [5] Values for Switches with spring return on request | [6] Storage Temperature: -40 °C at 85 °C (at Temperature under -5 °C no impact load permitted). | [7] Lower values on request. | [8] G-Fuse, nimble | [9] International standards and approvals, refer to page 65.

Selection DC switches

IEC 60947-3, EN 60947-3, VDE 0660 part 107 (Switch function on request)

									CA4	CA10	CA10S	CA20	CA20S	CA25	CA25S	CA40	CA40S	CA63S
Series contacts	**1**	**2**	**3**	**4**	**5**	**6**	**8**											
	Admissible voltage in Volt								Rated operational current I_e									
Utilization category DC-21A, DC-21B Switching of resistive loads Response time L/R≤1ms	24	48	72	96	120	144	192	A	10	16	16	21	24	26	32	35	40	63
	48	96	144	192	240	288	384	A	6	14	15	18	24	25	32	32	40	63
	60	120	180	240	300	360	480	A	5	13	15	17	21	24	28	28	40	50
	110	220	330	440	550	660	–	A	4	6	7	6	7	7	9,3	–	–	–
	220	440	660	–	–	–	–	A	0,8	0,9	1	1	1	1	1	–	–	–
Utilization category DC-22A, DC-22B Switching of mixed resistive and inductive loads (e.g. shunt motors)	24	48	72	96	120	144	192	A	8	14	15	18	24	25	32	35	40	63
	48	96	144	192	240	288	384	A	5	13	15	17	24	25	32	32	40	63
	60	120	180	240	300	360	480	A	4	12	15	16	19	24	25	–	20	25
	110	220	330	440	550	660	–	A	1,5	1,9	2	2	2	2,25	3	–	–	–
	220	440	660	–	–	–	–	A	0,3	0,3	0,35	0,3	0,35	0,35	0,35	–	–	–
Utilization category DC-23A, DC-23B Switching of highly inductive loads (i.e. series motors)	24	48	72	96	120	144	192	A	7	13	15	16	23	23	32	35	40	63
	48	96	144	192	240	288	384	A	4	12	15	15	23	21	32	26	40	63
	60	120	180	240	300	360	480	A	3,5	10	13	14	16	18	25	–	–	–
	110	220	330	440	550	660	–	A	1	1,5	1,75	1,7	1,75	2	2,5	–	–	–
	220	440	660	–	–	–	–	A	0,2	0,2	0,3	0,2	0,3	0,2	0,3	–	–	–
Utilization category DC-13 Control of DC electromagnetics Response time L/R≤100ms	24	48	–	–	–	–	–	A	0,8	3	–	4	–	5	–	–	–	–
	48	96	–	–	–	–	–	A	0,5	1,7	–	2,4	–	3	–	–	–	–
	60	120	–	–	–	–	–	A	0,2	1,4	–	1,8	–	2,5	–	–	–	–
	110	220	–	–	–	–	–	A	–	0,7	–	1	–	1,5	–	–	–	–
	220	440	–	–	–	–	–	A	–	0,15	–	0,35	–	0,5	–	–	–	–

Switching angles 60° or 90° (size S0) only possible for switch CA...S.

At higher voltages up to and including *1000 V/20 A* the switch type *G20S* is available. Information on page 65.

Control switch

Following technical data applies to the mentioned switch types intended for use as control switch for isolation with direct opening action according to Annex K of IEC 60947-5-1:2016, EN 60947-5-1:2017 and VDW 0660 Part 200:03:2018 referring to Low-Voltage Switchgear and Controlgear, Control Circuit Devices and Switching Elements.

			CA4 CA4N CA4-1 CA4N-1 CG4 CG4-1	CG6 CG7	CH6 CHR6	CA10 CA11	CA10-1 CA11-1	CG8 CG9	CH10 CHR10	CH10-1 CHR10-1	CA20	CH16 CHR16
Rated Operational Voltage U_e max. [1]		V	400	400	400	400	400	400	400	400	400	400
Rated Impulse Withstand Voltage U_{imp} [1]		kV	4	4	4	4	4	4	4	4	4	4
Rated Thermal Current $I_{th} = I_u$		A	10	20	20	20	20	20	20	16	25	25
Rated Operational Current I_e												
AC-13	24–400 V	A	6	12	10	12	6	12	10	5	16	15
AC-14	24–60 V	A	5	12	10	12	5	12	10	4	16	15
	110 V	A	4	10	8	10	5	10	8	3	12	10
	230 V	A	4	10	8	10	4	10	8	3	12	10
	400 V	A	2,5	7	7	7	2,5	7	7	2	8	8
AC-15	24–60 V	A	3	8	6	8	3	8	6	2	10	8
	110 V	A	2,5	6	5	6	3	6	5	1,5	8	8
	230 V	A	2,5	5	5	5	2,5	5	5	1,5	8	8
	400 V	A	1,5	4	4	4	1,5	4	4	1	5	5
Rated Conditional Short-Circuit Current		kA	1	1	1	1	1	1	1	1	1	1
Short Circuit Protection: gG-Fuse		A	10	20	20	20	20	20	20	16	16	25
Direct Opening Action guaranteed resp. Direct Opening Action Symbol	valid for		all manually opened switch contacts									
Presupposition:												
1) Maximum Number of Stages			6	4	4	6	8	6	8	6	8	6	8	6	8	6	8	6	8
2) Maximum Number of Contacts opened at the same time for switches with latching positions [2]																			
Switching Angle	30°		–	–	–	10	6	10	6	10	6	10	6	10	6	10	6	10	6
	45°		6	8	8	12	10	12	10	12	10	12	10	12	10	12	10	12	10
	60°		10	8	8	12	12	12	12	12	12	12	12	12	12	12	12	12	12
	90°		12	8	8	12	16	12	16	12	16	12	16	12	16	12	16	12	16

[1] Valid for single-phase circuits, overvoltage category II, polution degree 3. Values for other supply systems or overvoltage categories on request. | [2] The number of contacts indicated do not consider any cam-cut extension.

Switch functions						
Ordering example		(Chapter switch types) CH10			A200	E (Chapter mounting)
		(Chapter switch types) CH10			WAA341 F070[2]	E (Chapter mounting)
Not every switch function is standarised for all types		Angle °	Poles	Stages	Code	Switch functions + Connection diagram page
ON/OFF switches						
	0 – 1	60	1	1	A200	21
			2	1	A201	21
			3	2	A202	21
			4	2	A203	21
			5	3	WAA341 F070	21
			6	3	A342	21
			7	4	A343	21
			8	4	A344	21
			9	5	WAA345 F070	21
			10	5	A346	21
			11	6	WAA347 F070	21
			12	6	A348	21
	0 – 1 pre-close N		4	2	WAA653 F070	21
			8	4	WAA654 F070	21
	0 – 1	90	1	1	A290	21
			2	1	A291	21
			3	2	A292	21
			4	2	A324	21
			5	3	WAA325 F056	21
			6	3	A326	21
	0 – 1 pre-close N		4	2	A293	21
	0 – 1 – 0 – 1 rotation 360°	90	3	2	WAA208 F062	21
	0 – 1 symmetric	90	1	1	WAA590 F700	21
			2	1	WAA591 F700	21
			3	2	WAA592 F700	21
			4	2	WAA593 F700	21
	0 – 1	30	1	1	WAA100 F169	21
			2	1	WAA101 F169	21
			3	2	WAA102 F169	21
			4	2	WAA103 F169	21
	0 – 1 with spring return [1]		1	1	A204 F169	21
			2	1	A205 F169	21
			3	2	WAA206 F169	21
			4	2	WAA207 F169	21
Double-throw switches without "OFF"						
	1 – 2	60	1	1	A220	21
			2	2	A221	21
			3	3	A222	21
			4	4	A223	21
			5	5	A369	21
			6	6	A370	21
			7	7	A371	21
			8	8	A372	21
			9	9	WAA373 F072	21
			10	10	WAA374 F072	21
			11	11	WAA375 F072	22
			12	12	WAA376 F072	21

[1] Not possible for Switch type C315. | [2] For switch type C315.WAA... the terminal lugs S3D.D625 are additionally specified. Number corresponds to termination points.

Switch functions

Ordering example			(Chapter switch types) CH10 A200		E (Chapter mounting)
			(Chapter switch types) CH10 WAA341 F070[2]		E (Chapter mounting)
Not every switch function is standarised for all types	Angle °	Poles	Stages	Code	Switch functions + Connection diagram page
Double-throw switches without 'OFF'					
1 – 2 Pre-close N		4	4	WAA673 F072	22
		8	8	WAA972 F072	22
 1 – 2	90	1	1	A530	22
		2	2	WAA531 F254	22
		3	3	WAA532 F254	22
		4	4	WAA533 F254	22
 1 – 2 symmetric	90	1	1	WAA520 F743	22
		2	2	WAA521 F743	22
		3	3	WAA522 F743	22
		4	4	WAA523 F743	22
		6	6	WAA570 F743	22
 1 – 2 [1]	30	1	1	WAA120 F026	22
		2	2	WAA121 F026	22
		3	3	WAA122 F026	22
		4	4	WAA123 F026	22
1 – 2 with Spring Return [1]		1	1	A295	22
		2	2	A296	22
		3	3	WAA297 F026	22
Double-throw switches without 'OFF' with electrically isolated contacts					
 1 – 2 symmetric 60°	60	1	1	A720	22
		2	2	A721	22
		3	3	A722	22
		4	4	A723	22
1 – 2 Pre-close N		4	4	WAA973 F072	22
 1 – 2	90	1	1	A585	22
		2	2	A586	22
		3	3	WAA587 F254	22
		4	4	WAA588 F254	22
 1 – 2 symmetric 90°	90	1	1	A575	22
		2	2	A576	22
		3	3	WAA577 F743	22
		4	4	A578	22
 1 – 2 with Spring Return [1]	30	1	1	A795	22
Double-throw switches with 'OFF' (continued on next page)					
 1 – 0 – 2	60	1	1	A210	22
		2	2	A211	22
		3	3	A212	22
		4	4	A213	22
		5	5	A361	23
		6	6	A362	23
		7	7	WAA363 F071	23
		8	8	WAA364 F071	23
1 – 0 – 2 Pre-close N		4	4	WAA913 F071	23
		8	8	WAA664 F071	23

[1] Not possible for Switch types CA40 up to CA63, C80, C125, C200-4 and C315. | [2] For switch type C315.WAA... the terminal lugs S3D.D625 are additionally specified. Number corresponds to termination points.

Switch functions						
Ordering example				(Chapter switch types) CH10	A200	E (Chapter mounting)
				(Chapter switch types) CH10	WAA341 F070[2]	E (Chapter mounting)
	Not every switch function is standarised for all types	Angle °	Poles	Stages	Code	Switch functions + Connection diagram page
Double-throw switches with 'OFF' (continued)						
	HAND – 0 – AUTO	60	1	1	A210 F085	23
			2	2	A211 F085	23
			3	3	A212 F085	23
	1 – 0 – 2	90	1	1	A218	23
			2	2	A219	23
			3	3	WAA299 F057	23
	1 – 0 – 2 Pre-close N		4	4	WAA294 F057	23
	1 – 0 – 2	45	1	1	A510	23
			2	2	WAA511 F216	23
			3	3	WAA512 F216	23
			4	4	WAA513 F216	23
	1 > 0 < 2 With spring return to centre	30	1	1	A214	23
			2	2	A215	23
			3	3	A216	23
	1 > 0 < 2 With spring return to centre [1]	45	1	1	WAA514 F216	23
			2	2	WAA515 F216	23
	1 > 0 – 2 With spring return	30/60	1	1	A320 F341	23
			2	2	A321 F341	23
			3	3	A322 F341	23
Double-throw switches with 'OFF' with electrically isolated contacts						
	1 – 0 – 2	60	1	1	A710	23
			2	2	A711	23
			3	3	A712	23
			4	4	A713	23
	1 – 0 – 2 Pre-close N		4	4	WAA963 F071	24
	1 > 0 < 2 With spring return to centre	30	1	1	A714	24
			2	2	A715	24
	1 – 0 – 2	45	1	1	A565	24
			2	2	WAA566 F216	24
			3	3	WAA567 F216	24
			4	4	WAA568 F216	24
Gang switches						
	0 – 1 – 2 2 gangs	60	1	1	A310	24
	Switching sequence: 0, A, A+B		2	2	A312	24
			3	3	WAA314 F075	24
	0 – 1 – 2 – 3 3 gangs	30	1	2	A311	24
	Switching sequence: 0, A, A+B, A+B+C		2	3	WAA313 F001	24
			3	5	WAA315 F001	24
	0 – 1 – 2 – 3 2 gangs series switching Switching sequence: 0, A, B, A+B	30	1	1	WAA330 F001	24
			2	2	WAA331 F001	24
			3	3	WAA332 F001	24
	0–1–2–3 2 Gangs series-parallel switching Switching sequence: 0, A+B Serie, A, A+B parallel		2	2	WAA339 F001	24

[1] On request. Only for switches with integrated return latching mechanism. | [2] For switch type C315.WAA... the terminal lugs S3D.D625 are additionally specified.

Number corresponds to termination points.

Switch functions

Ordering example				(Chapter switch types) CH10 A200	E (Chapter mounting)
				(Chapter switch types) CH10 WAA341 F070[2]	E (Chapter mounting)
Not every switch function is standarised for all types	Angle °	Poles	Stages	Code	Switch functions + Connection diagram page
Code switches with binary coding					
	0 – 7 rotation 360°	45		2	A540	24
	0 – 7 complement rotation 360°			2	WAA541 F322	25
	0 – 7 + complete rotation 360°			3	WAA542 F322	25
	0 – 9	30		2	A550	25
	0 – 9 complement			2	WAA551 F007	25
	0 – 9 + complement			4	WAA552 F007	25
	0 – 11 rotation 360°	30		2	A543	25
	0 – 11 + complement rotation 360°			4	WAA545 F009	25
Multi-step switches without "OFF"						
	3 stages	60	1	2	A230	25
			2	3	A250	25
			3	5	A270	25
			4	6	A476	25
			5	8	WAA484 F076	25
			6	9	WAA489 F076	25
	4 stages	60	1	2	A231	25
			2	4	A251	25
			3	6	A271	25
			4	8	A477	26
			5	10	WAA485 F077	26
			6	12	WAA490 F077	26
	5 stages	60	1	3	A232	26
			2	5	A252	26
			3	8	WAA272 F078	26
			4	10	WAA478 F078	26
	6 stages	60	1	3	A233	26
			2	6	WAA253 F079	26
			3	9	WAA273 F079	26
	7 stages	45	1	4	WAA234 F110	26
			2	7	WAA254 F110	26
			3	11	WAA274 F110	26
	8 stages	45	1	4	WAA235 F111	26
			2	8	WAA255 F111	26
			3	12	WAA275 F111	26
	9 stages	30	1	5	WAA236 F010	27
	10 stages	30	1	5	WAA237 F011	27
	11 stages	30	1	6	WAA238 F012	27
	12 stages	30	1	6	WAA239 F013	27
	12 stages with rotation 360°		1	6	WAA639 F013	27

[2] For switch type C315.WAA... the terminal lugs S3D.D625 are additionally specified. Number corresponds to termination points.

Switch functions						
Ordering example		(Chapter switch types) CH10		A200	E (Chapter mounting)	
		(Chapter switch types) CH10		WAA341 F070[2]	E (Chapter mounting)	
Not every switch function is standarised for all types		**Angle °**	**Poles**	**Stages**	**Code**	**Switch functions + Connection diagram page**
Multi-step switches without "OFF" with electrically isolated contacts						
	3 stages	60	1	2	A730	27
			2	3	A750	27
	4 stages	60	1	2	A731	27
			2	4	A751	27
Multi-step switches with "OFF"						
	2 stages	60	1	1	A240	27
			2	2	A260	27
			3	3	A280	27
			4	4	WAA480 F075	27
			5	5	WAA486 F075	27
			6	6	WAA491 F075	27
	3 stages	45	1	2	A241	27
			2	3	A261	27
			3	5	A281	27
			4	6	WAA481 F109	28
			5	8	WAA487 F109	28
	4 stages	30	1	2	A242	28
			2	4	WAA262 F002	28
			3	6	WAA282 F002	28
			4	8	WAA482 F002	28
	5 stages	30	1	3	A243	28
			2	5	WAA263 F003	28
			3	8	WAA283 F003	28
	6 stages	30	1	3	A244	28
			2	6	WAA264 F004	28
			3	9	WAA284 F004	28
	7 stages	30	1	4	WAA245 F005	28
			2	7	WAA265 F005	28
	8 stages	30	1	4	WAA246 F006	28
	9 stages	30	1	5	WAA247 F007	29
	10 stages	30	1	5	WAA248 F008	29
	11 stages	30	1	6	WAA249 F009	29
	11 stages with rotation 360°		1	6	WAA649 F009	29

[2] For switch type C315.WAA... the terminal lugs S3D.D625 are additionally specified. Number corresponds to termination points.

Switch functions

Ordering example				(Chapter switch types) CH10 A200 (Chapter switch types) CH10 WAA341 F070[2]	E (Chapter mounting) E (Chapter mounting)
Not every switch function is standarised for all types	Angle °	Poles	Stages	Code	Switch functions + Connection diagram page
Voltmeter switch without "OFF"					
 L1-L2 – L2-L3 – L3-L1 3 phase	45		2	A023 F793	29
 L3-L1 – L2-L3 – L1-L2 – L1-N – L2-N – L3-N 3 phase to phase and 3 phase to neutral	45		3	A025 F795	29
Voltmeter switch with "OFF"					
 0 – L1-L2 – L2-L3 – L3-L1 3 phase, 3 wire	45		2	A004 F778	29
 0 – L1-N – L2-N – L3-N 3 phase to neutral	45		2	WAA005 F781	29
 L3-L1 – L2-L3 – L1-L2 – 0 – L1-N – L2-N – L3-N 3 phase to phase and 3 phase to neutral	45		3	A007 F785	29
 L3-L1 – L2-L3 – L1-L2 – 0 – L1-L2 – L2-L3 – L3-L1 2 separate 3 phase with centre "OFF"	45		4	WAA008 F788	29
 L3-L1 – L2-L3 – L1-L2 – 0 – L1-N 3 phase to phase, 1 phase	45		3	WAA010 F791	29
Ammeter switches					
 0 – 1, 1-pole, 1 current transformer	90	1	1	WAA046 F058	30
 1 – 2 – 3, 1-pole, 3 current transformers without "OFF"	90	1	3	WAA017[1] F719	30
 0 – 1 – 2 – 3, 1-pole, 3 current transformers with "OFF", rotation 360°	90	1	3	A048	30
 1 – 2 – 3 – 4, 1-pole, 4 current transformers	90	1	4	WAA036 F060	30
 1 – 0 – 2, 2-pole, 2 current transformers	90	2	3	WAA037 F057	30
 1 – 2 – 3, 2-pole, 3 current transformers	90	2	5	WAA019 F719	30
 0 – 1 – 2 – 3, 2-pole, 3 current transformers with "OFF"	90	2	5	A038	30
 1 – 2 – 3 – 4, 2-pole, 4 current transformers	90	2	6	WAA039 F060	30
Volt-Ammeter-switches					
 1 – 2 – 3 – 4 3 phase, 1 phase to neutral, 3 current, 2-pole	60	2	7	WAA028 F077	30

[1] Handle specified additionally | [2] For switch type C315.WAA... the terminal lugs S3D.D625 are additionally specified. Number corresponds to termination points.

Switch functions						
Ordering example				(Chapter switch types) CH10	A200	E (Chapter mounting)
				(Chapter switch types) CH10	WAA341 F070[2]	E (Chapter mounting)
Not every switch function is standarised for all types		Angle °	Poles	Stages	Code	Switch functions + Connection diagram page
Control switches						
	STOP > Stop switch (sensing device)	30		1	WAA174 F022	30
	< START Start switch (sensing device)	30		1	A175	30
	STOP > < START, Stop-start switch (sensing device))	30	1	1	A176	31
			2	2	WAA183 F024	31
	0 – 1 < START Stop-start switch with spring return from start to run (sensing device)	90/30		1	A178	31
	START > 1 – 0 – 2 < START Stop-start switch with spring return to run for 2 units (sensing device)	60/30		2	WAA177 F121	31
	START > 1 – 0 – 2 < START Stop-start switch with spring return to run with contactor interlock contactors for 2 units	60/30		2	WAA182 F121	31
Control switches with electrically isolated contacts						
	STOP > < START Stop-start switch (sensing device)	30		1	A789	31
	0 – 1 < Start Stop-start switch with spring return from start to run (sensing device)	90/30		1	A791	31
	START > 1 – 0 – 2 < START Stop-start switch with spring return to run for 2 units (sensing device)	60/30		2	WAA790 F121	31
	1 – 0 – 2 Contactor control with spring return to "OFF"	30		2	WAA179 F025	31
Control and alarm switches						
	Control and alarm switches with slip clutch and without indicator device			5	WAA190 F990	32
	Control and alarm switches without indicator device			2	WAA192 F990	32
Motor reversing switches						
	1 – 0 – 2	60	2	2	A400	32
			3	3	A401	32
	1 – 0 – 2, with spring return to „OFF“	30	3	3	A228[1]	32
	START > 1 – 0 – 2 < START For use with reversing contactors	60/30	3	4	WAA402 F121	32

[1] Only available up to switch type CA25B. | [2] For switch type C315.WAA... the terminal lugs S3D.D625 are additionally specified. Number corresponds to termination points.

Switch functions

Ordering example				(Chapter switch types) CH10 A200	E (Chapter mounting)
				(Chapter switch types) CH10 WAA341 F070[2]	E (Chapter mounting)
Not every switch function is standarised for all types	Angle °	Poles	Stages	Code	Switch functions + Connection diagram page
Motor control switches					
 0 – 1 – 2 2 speed, 2 winding, 0-A-BY or △	60		3	WAA451 F073	32
 0 – 1 – 2 – 3 3 speed, 2 winding, 0-A△-BY-AYY	45		6	WAA457 F109	32
Motor control switches					
 0 – 1 – 2 2 speed, single winding 0-A-AY	60		4	A440	32
 1 – 2 2 speed, single winding without "OFF"	60		4	A466	32
 1 – 0 – 2 2 speed, single winding with centre "OFF" A△-0-AY	60		4	A441	32
 2 – 1 – 0 – 1 – 2 2 speed, single winding reversing	45		6	A442	33
 0 – 1 – 2 For use with reversing contactors	60		5	WAA444 F073	33
 2 – 1 – Y – 0 – Y – 1 – 2 2 speed reversing for 2 way operation with slip clutch for "OFF" load use	45		10	WAA468 F294	33
Star-delta switches					
 0 – Y – △ Standard	60		4	A410	33
 △ – Y – 0 – Y – △ Reversing	45		5	WAA413 F112	33
 0 – Y – △ With auxiliary contact closed in "OFF" position	60		5	WAA416 F080	33
 For use with reversing contactors, 0 – Y – △	90		4	A419	33
Start and run switches					
 0 – 1 < START Split-phase start	90 / 30		2	A425	33
 1 – START – 0 – START – 2 Split-phase start reversing	30 / 60		3	WAA426 F120	33
 Split-phase reversing auto cutout of start field winding	60		3	WAA622 F104	33

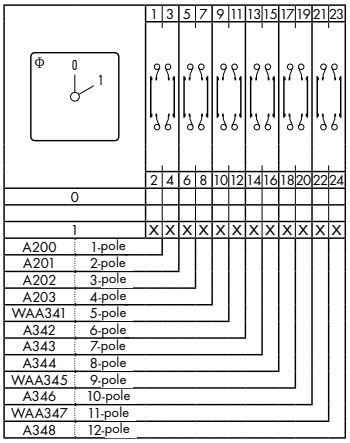
[2] For switch type C315.WAA... the terminal lugs S3D.D625 are additionally specified. Number corresponds to termination points.

Switch functions (numerically sorted)

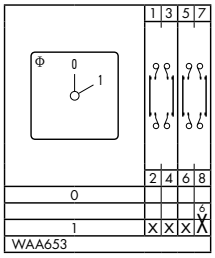
Program	Page	Program	Page	Program	Page	Program	Page	Program	Page	Program	Page
A004 F778	29	WAA207 F169	21	A252	26	A326	21	WAA468 F294	33	A575	22
WAA005 F781	29	WAA208 F062	21	WAA253 F079	26	WAA330 F001	24	A476	25	A576	22
A007 F785	29	A210	22	WAA254 F110	26	WAA331 F001	24	A477	26	WAA577 F743	22
WAA008 F788	29	A210 F085	23	WAA255 F111	26	WAA332 F001	24	WAA478 F078	26	A578	22
WAA010 F791	29	A211	22	A260	27	WAA339 F001	24	WAA480 F075	27	A585	22
WAA017 F719	30	A211 F085	23	A261	27	WAA341 F070	21	WAA481 F109	28	A586	22
WAA019 F719	30	A212	22	WAA262 F002	28	A342	21	WAA482 F002	28	WAA587 F254	22
A023 F793	29	A212 F085	23	WAA263 F003	28	A343	21	WAA484 F076	25	WAA588 F254	22
A025 F795	29	A213	22	WAA264 F004	28	A344	21	WAA485 F077	26	WAA590 F700	21
WAA028 F077	30	A214	23	WAA265 F005	28	WAA345 F070	21	WAA486 F075	27	WAA591 F700	21
WAA036 F060	30	A215	23	A270	25	A346	21	WAA487 F109	28	WAA592 F700	21
WAA037 F057	30	A216	23	A271	25	WAA347 F070	21	WAA489 F076	25	WAA593 F700	21
A038	30	A218	23	WAA272 F078	26	A348	21	WAA490 F077	26	WAA622 F104	33
WAA039 F060	30	A219	23	WAA273 F079	26	A361	23	WAA491 F075	27	WAA639 F013	27
WAA046 F058	30	A220	21	WAA274 F110	26	A362	23	A510	23	WAA649 F009	29
A048	30	A221	21	WAA275 F111	26	WAA363 F071	23	WAA511 F216	23	WAA653 F070	21
WAA100 F169	21	A222	21	A280	27	WAA364 F071	23	WAA512 F216	23	WAA654 F070	21
WAA101 F169	21	A223	21	A281	27	A369	21	WAA513 F216	23	WAA664 F071	23
WAA102 F169	21	A228	32	WAA282 F002	28	A370	21	WAA514 F216	23	WAA673 F072	22
WAA103 F169	21	A230	25	WAA283 F003	28	A371	21	WAA515 F216	23	A710	23
WAA120 F026	22	A231	25	WAA284 F004	28	A372	21	WAA520 F743	22	A711	23
WAA121 F026	22	A232	26	A290	21	WAA373 F072	21	WAA521 F743	22	A712	23
WAA122 F026	22	A233	26	A291	21	WAA374 F072	21	WAA522 F743	22	A713	23
WAA123 F026	22	WAA234 F110	26	A292	21	WAA375 F072	22	WAA523 F743	22	A714	24
WAA174 F022	30	WAA235 F111	26	A293	21	WAA376 F072	21	A530	22	A715	24
A175	30	WAA236 F010	27	WAA294 F057	23	A400	33	WAA531 F254	22	A720	22
A176	31	WAA237 F011	27	A295	22	A401	33	WAA532 F254	22	A721	22
WAA177 F121	31	WAA238 F012	27	A296	22	WAA402 F121	33	WAA533 F254	22	A722	22
A178	31	WAA239 F013	27	WAA297 F026	22	A410	33	A540	24	A723	22
WAA179 F025	31	A240	27	WAA299 F057	23	WAA413 F112	33	WAA541 F322	25	A730	27
WAA182 F121	31	A241	27	A310	24	WAA416 F080	33	WAA542 F322	25	A731	27
WAA183 F024	31	A242	28	A311	24	A419	33	A543	25	A750	27
WAA190 F990	32	A243	28	A312	24	A425	33	WAA545 F009	25	A751	27
WAA192 F990	32	A244	28	WAA313 F001	24	WAA426 F120	33	A550	25	A789	31
A200	21	WAA245 F005	28	WAA314 F075	24	A440	32	WAA551 F007	25	WAA790 F121	31
A201	21	WAA246 F006	28	WAA315 F001	24	A441	32	WAA552 F007	25	A791	31
A202	21	WAA247 F007	29	A320 F341	23	A442	33	A565	24	A795	22
A203	21	WAA248 F008	29	A321 F341	23	WAA444 F073	33	WAA566 F216	24	WAA913 F071	23
A204 F169	21	WAA249 F009	29	A322 F341	23	WAA451 F073	32	WAA567 F216	24	WAA963 F071	24
A205 F169	21	A250	25	A324	21	WAA457 F109	32	WAA568 F216	24	WAA972 F072	22
WAA206 F169	21	A251	25	WAA325 F056	21	A466	32	WAA570 F743	22	WAA973 F072	22

Switch functions

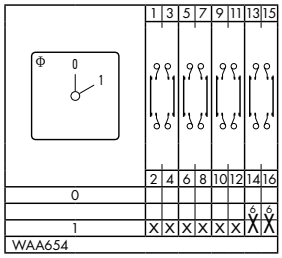
A200, A201, A202, A203, WAA341, A342, A343, A344, WAA345, A346, WAA347, A348



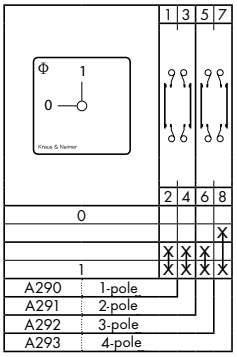
WAA653



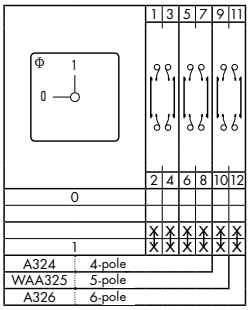
WAA654



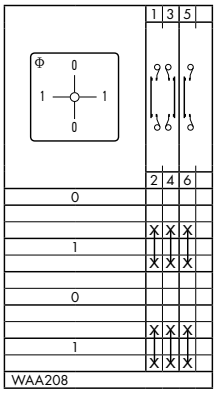
A290, A291, A292, A293



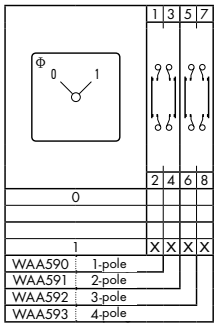
A324, WAA325, A326



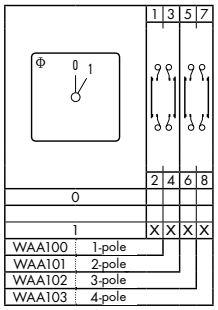
WAA208



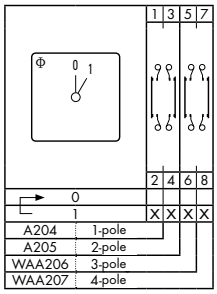
WAA590, WAA591 WAA592, WAA593



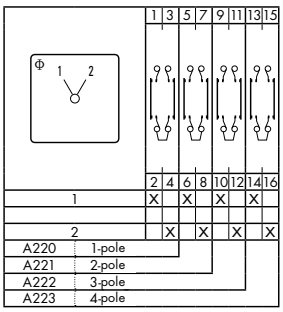
WAA100, WAA101 WAA102, WAA103



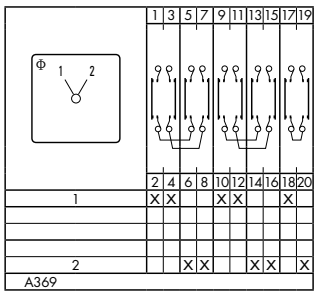
A204 A205 F169 F169 WAA206, WAA207



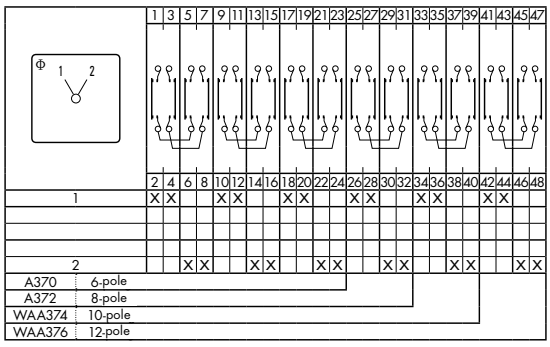
A220, A221, A222, A223



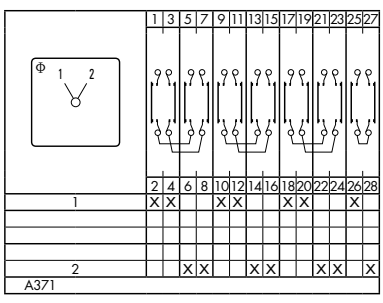
A369



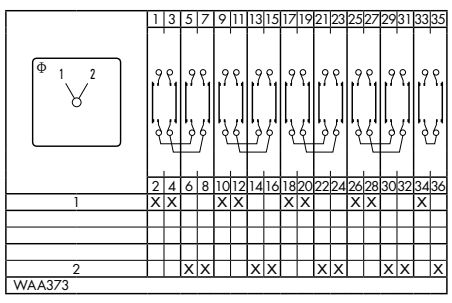
A370, A372, WAA374, WAA376



A371

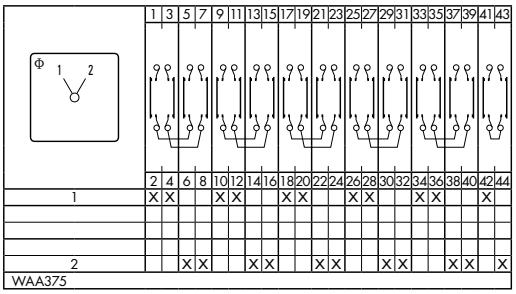


WAA373

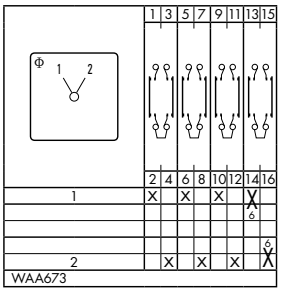


Switch functions

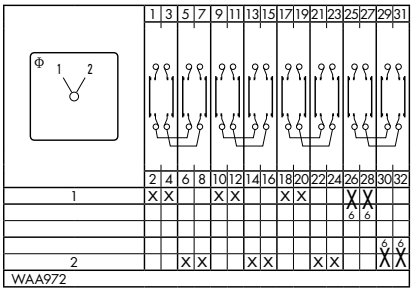
WAA375



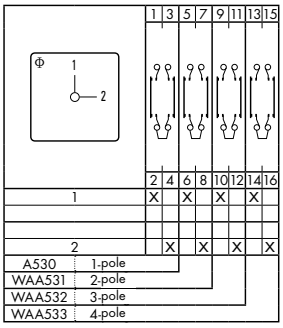
WAA673



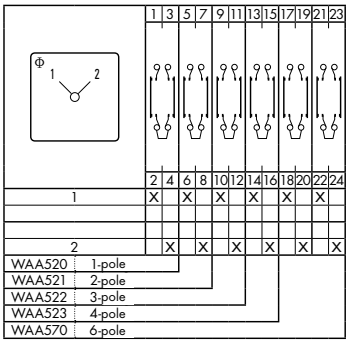
WAA972



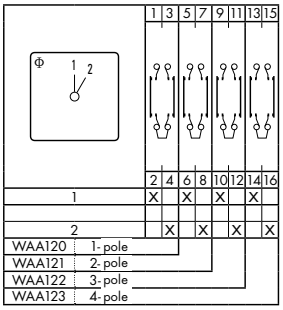
A530, WAA531, WAA532, WAA533



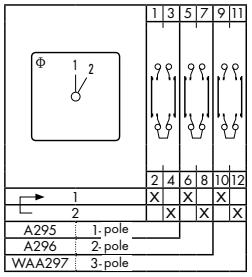
WAA520, WAA521, WAA522, WAA523, WAA570



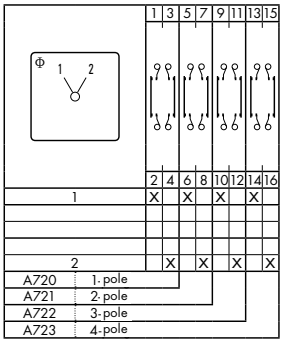
WAA120, WAA121, WAA122, WAA123



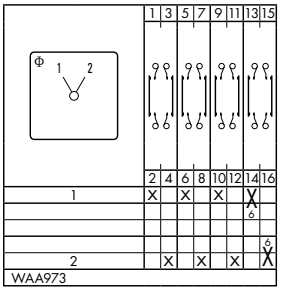
A295, A296, WAA297



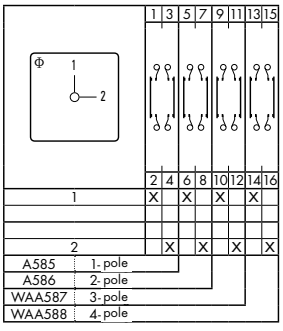
A720, A721, A722, A723



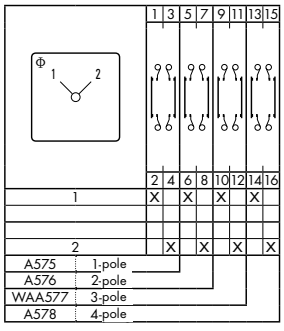
WAA973



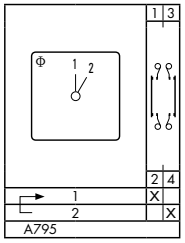
A585, A586, WAA587, WAA588



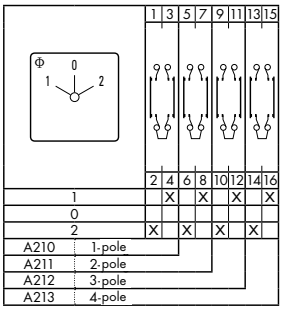
A575, A576, WAA577, A578



A795

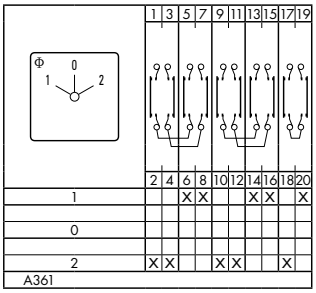


A210, A211, A212, A213

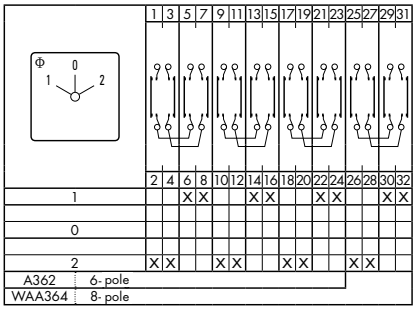


Switch functions

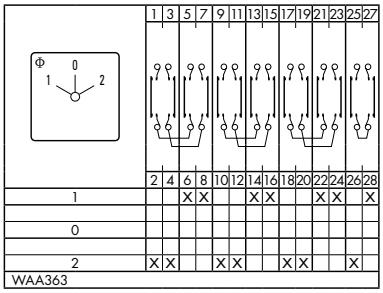
A361



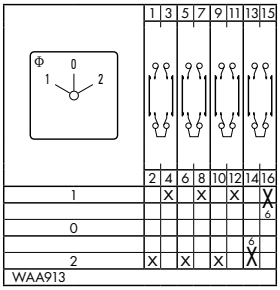
A362, WAA364



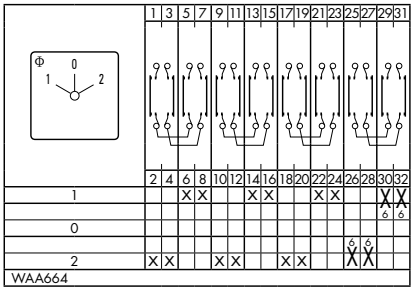
WAA363



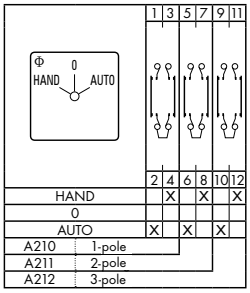
WAA913



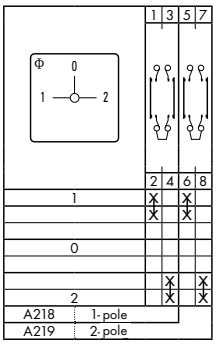
WAA664



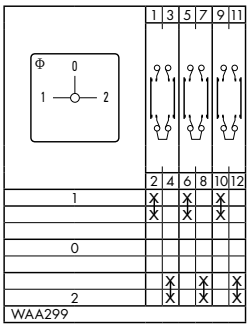
A210 F085 A211 F085 A212 F085



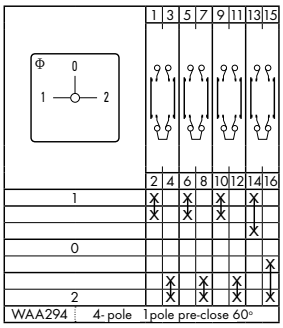
A218, A219



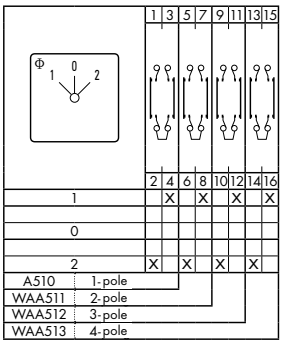
WAA299



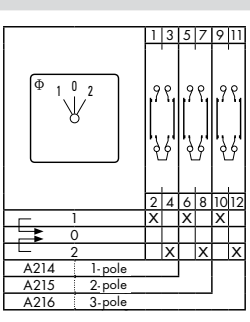
WAA294



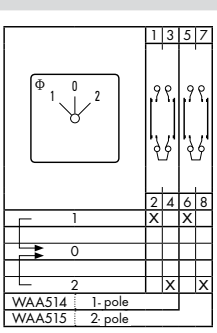
A510, WAA511, WAA512, WAA513



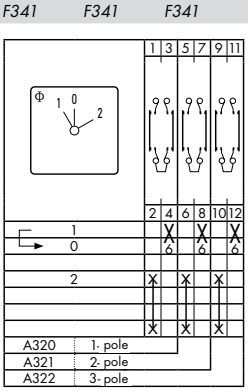
A214, A215, A216



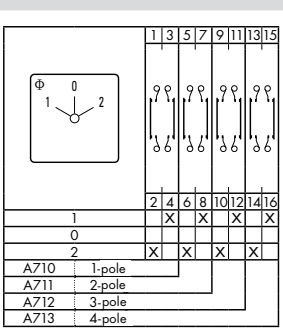
WAA514, WAA515



A320 F341 A321 F341 A322 F341

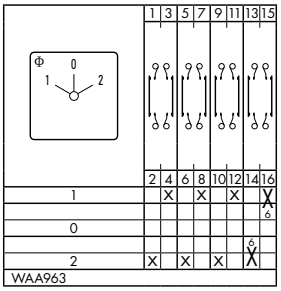


A710, A711, A712, A713

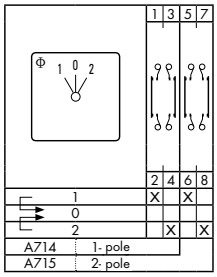


Switch functions

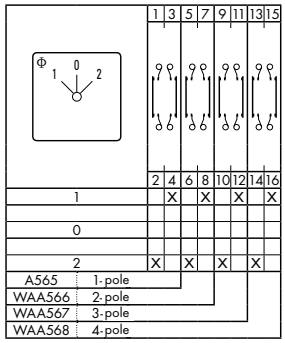
WAA963



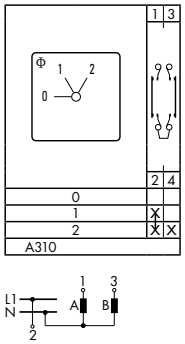
A714, A715



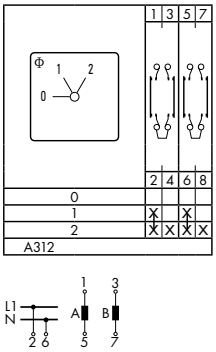
WAA565, WAA566, WAA567, WAA568



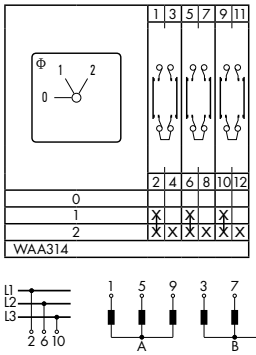
A310



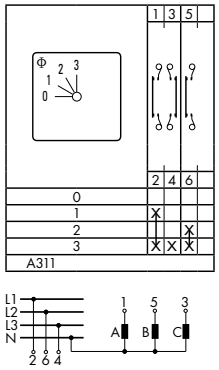
A312



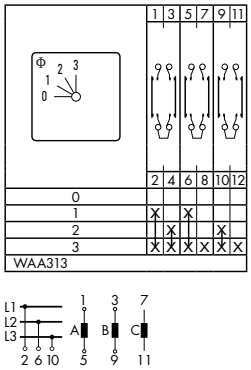
WAA314



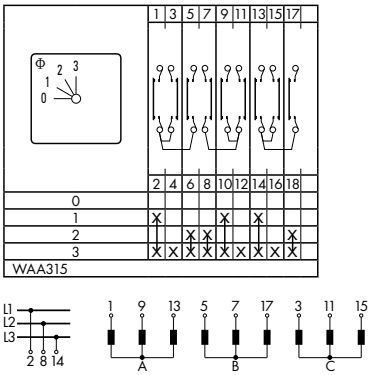
A311



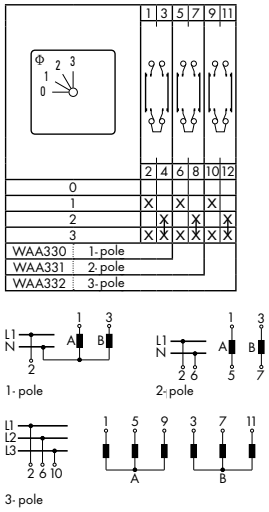
WAA313



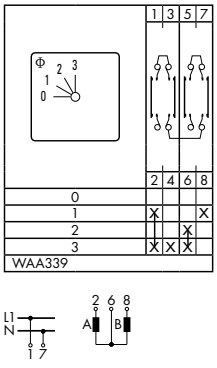
WAA315



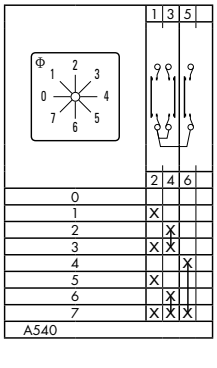
WAA330, WAA331, WAA332



WAA339

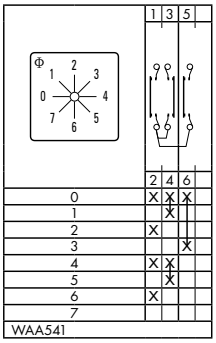


A540

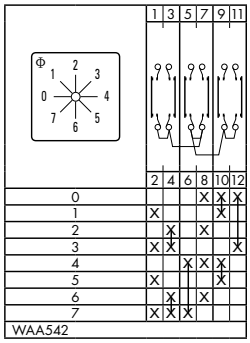


Switch functions

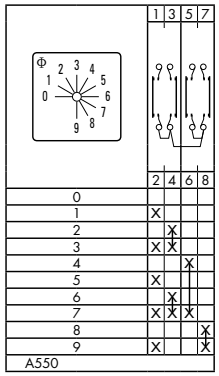
WAA541



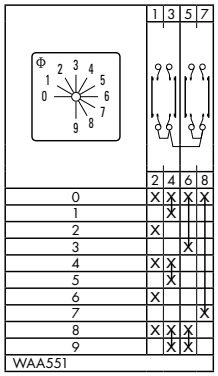
WAA542



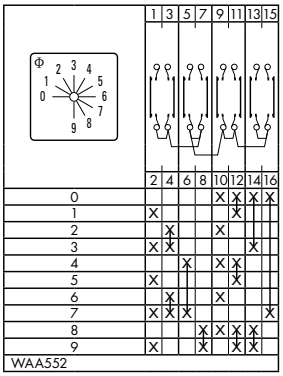
A550



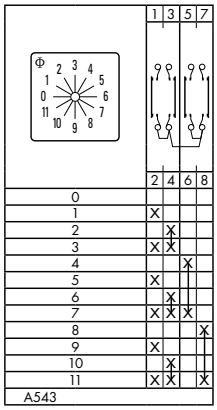
WAA551



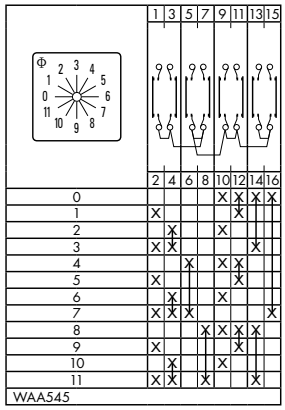
WAA552



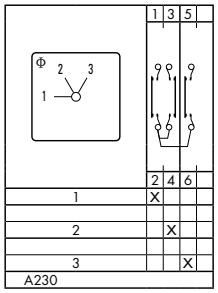
A543



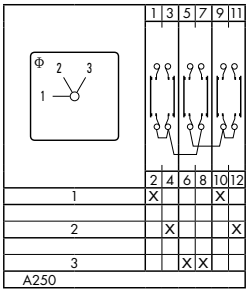
WAA545



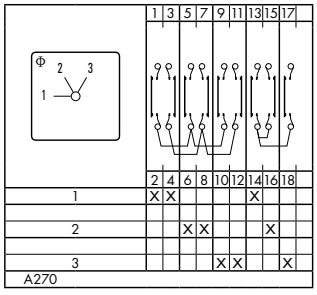
A230



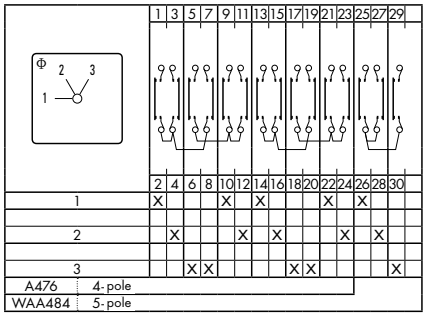
A250



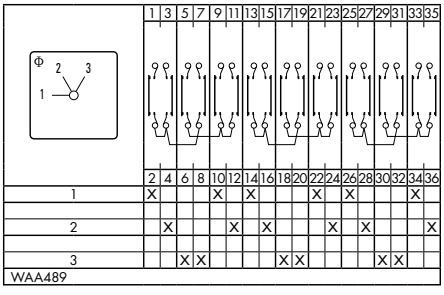
A270



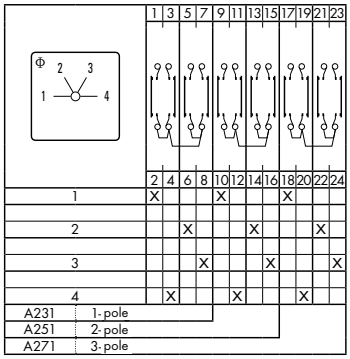
A476, WAA484



WAA489

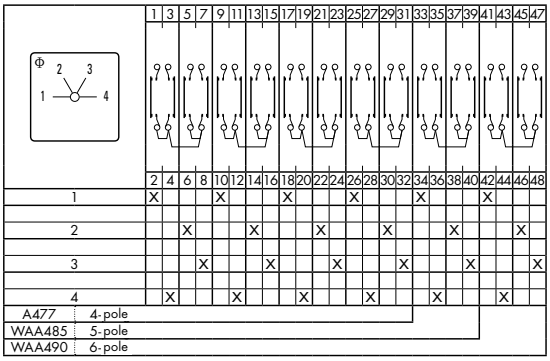


A231, A251, A271

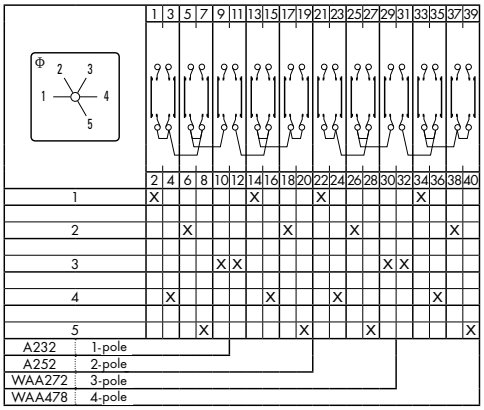


Switch functions

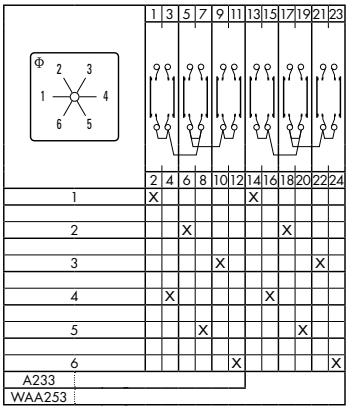
A477, WAA485, WAA490



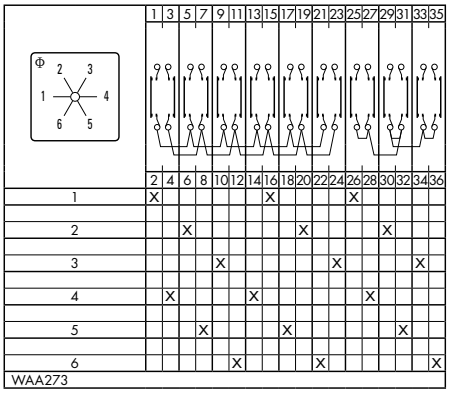
A232, A252, WAA272, WAA478



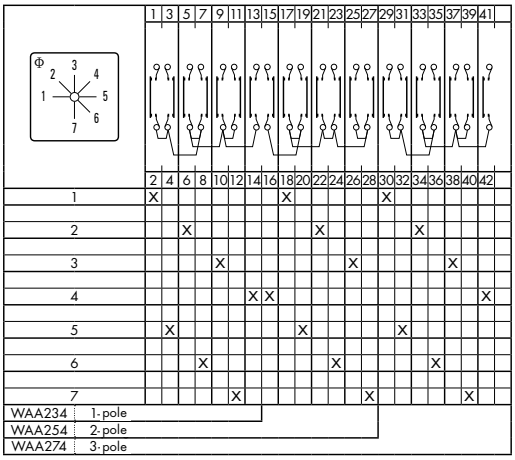
A233, WAA253



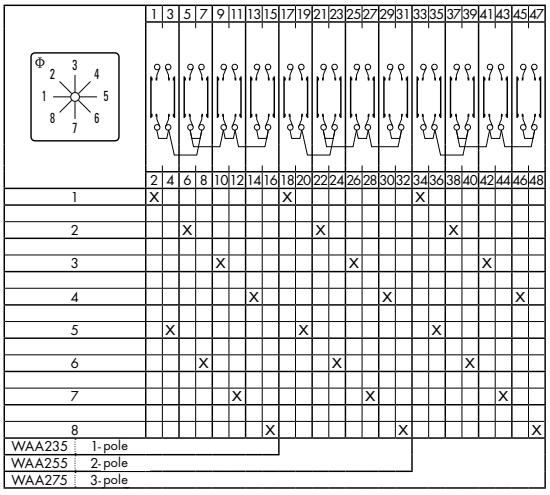
WAA273



WAA234, WAA254, WAA274

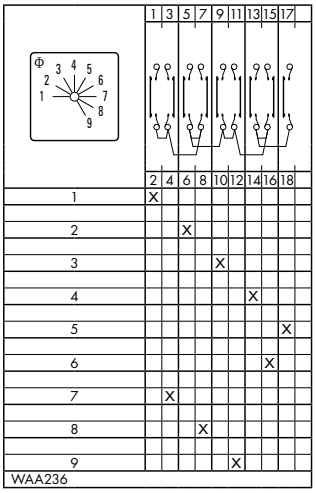


WAA235, WAA255, WAA275

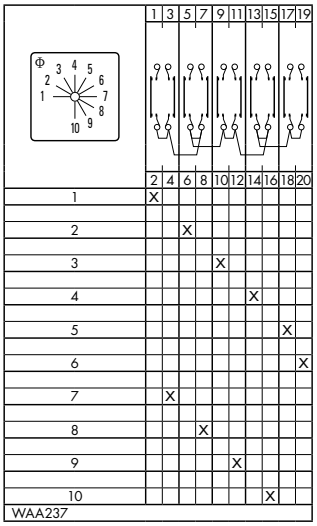


Switch functions

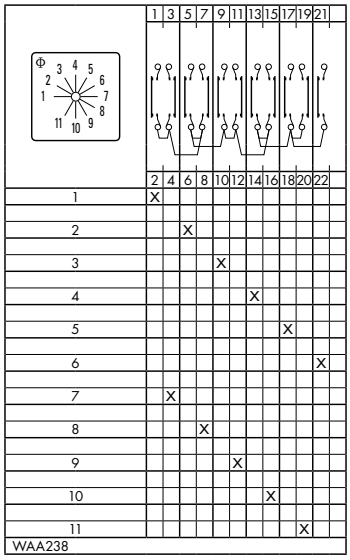
WAA236



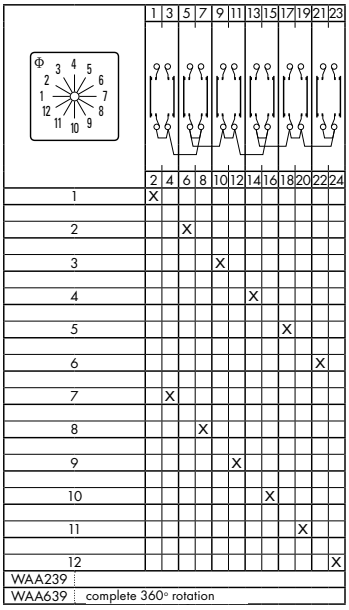
WAA237



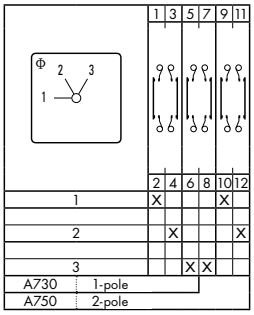
WAA238



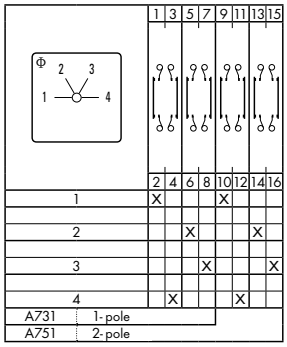
WAA239, WAA639



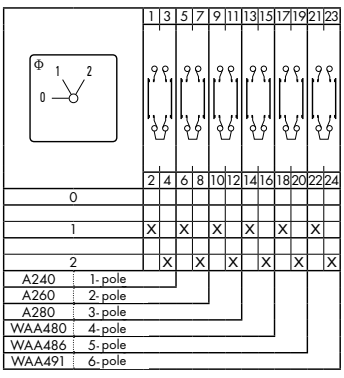
A730, A750



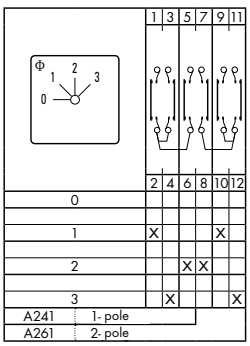
A731, A751



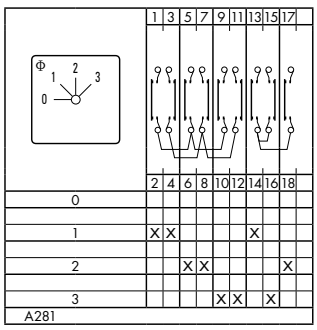
A240, A260, A280, WAA480, WAA486, WAA491



A241, A261

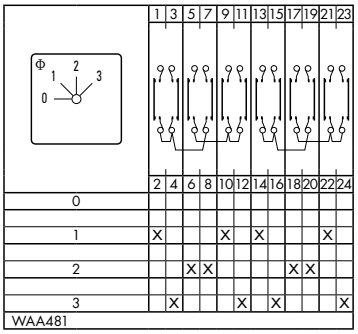


A281

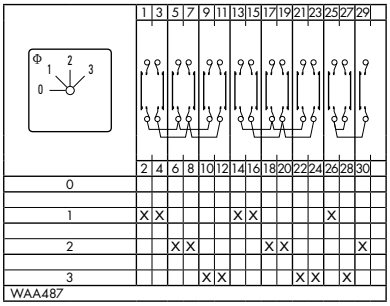


Switch functions

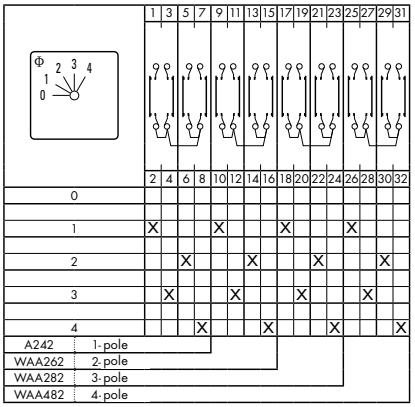
WAA481



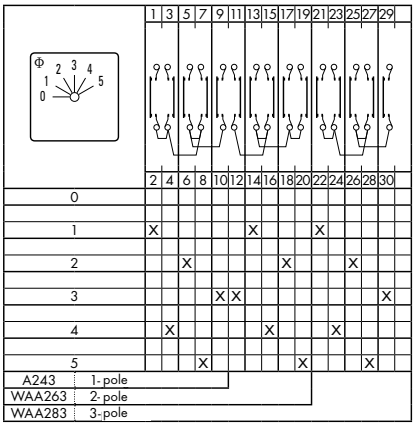
WAA487



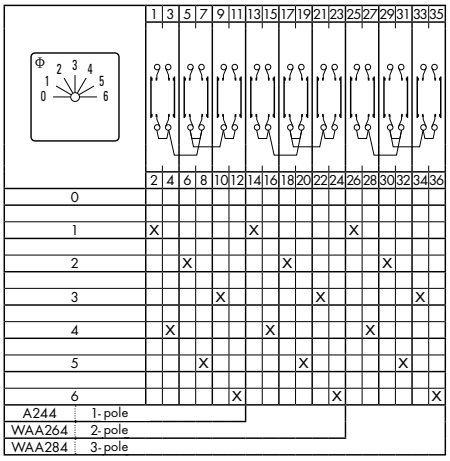
A242, WAA262, WAA282, WAA482



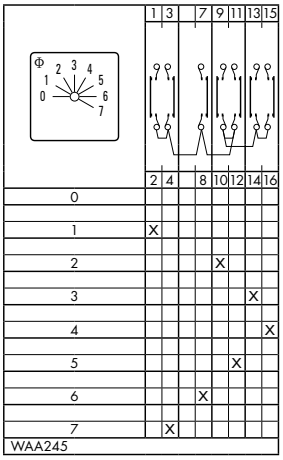
A243, WAA263, WAA283



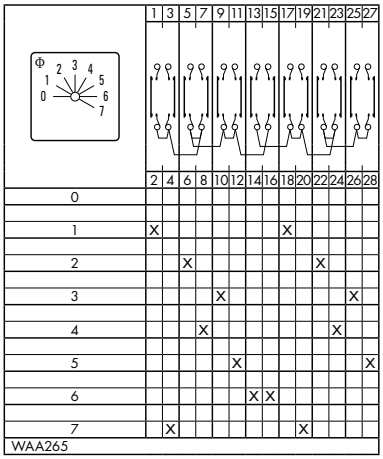
A244, WAA264, WAA284



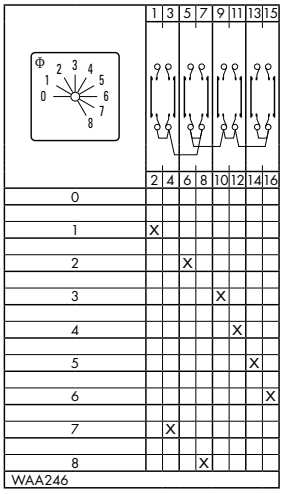
WAA245



WAA265

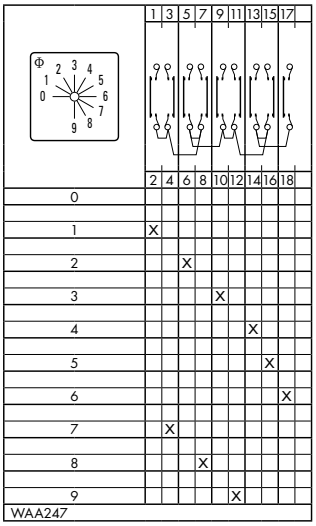


WAA246

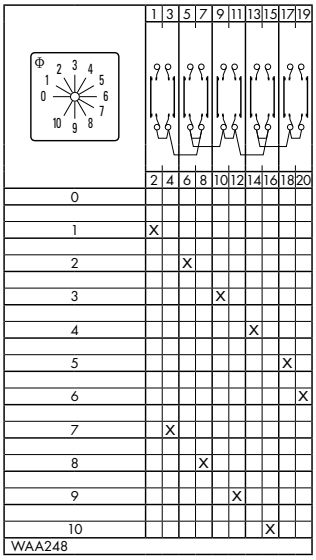


Switch functions

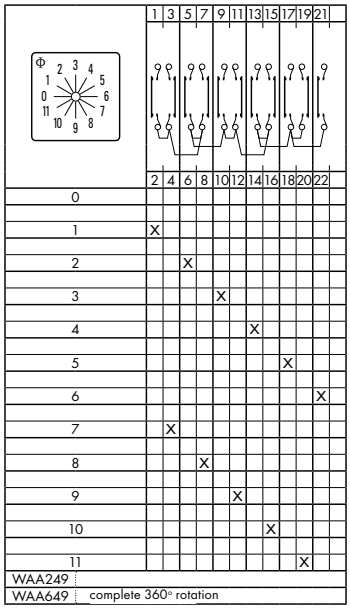
WAA247



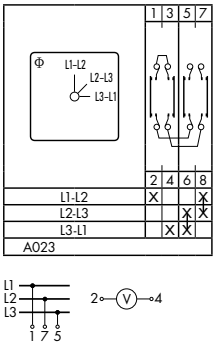
WAA248



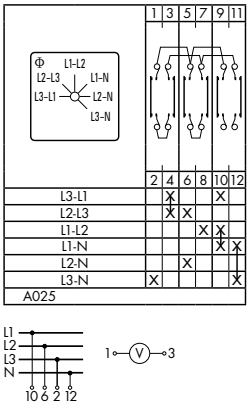
WAA249, WAA649



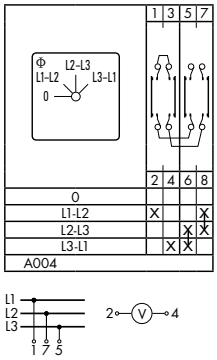
A023 F793



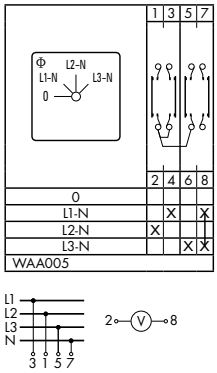
A025 F795



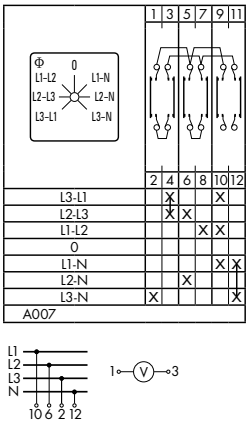
A004 F778



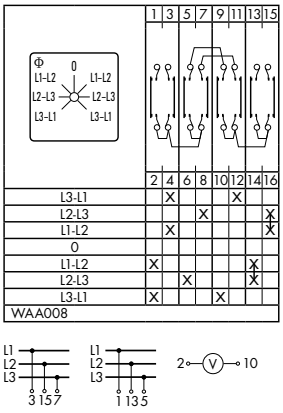
WAA005



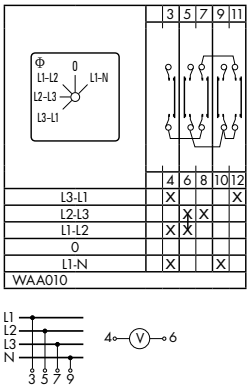
A007 F785



WAA008

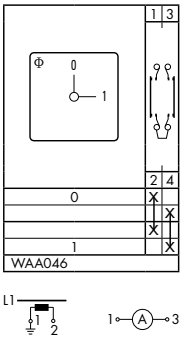


WAA010

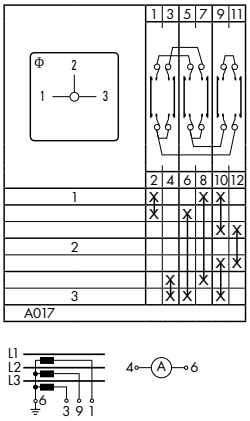


Switch functions

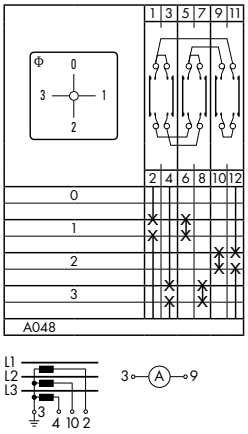
WAA046



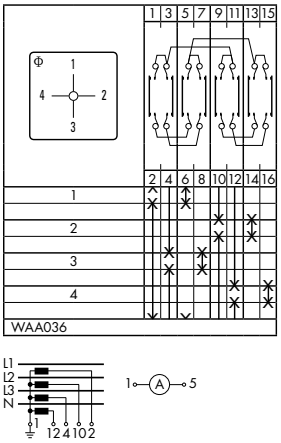
WAA017
F719



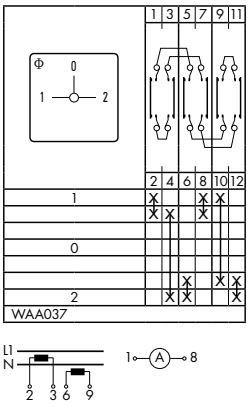
A048



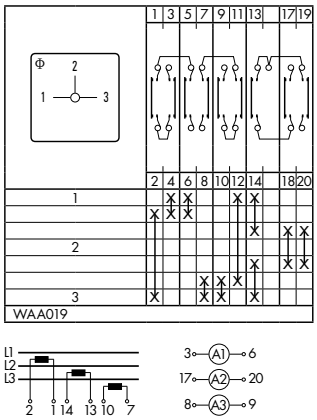
WAA036



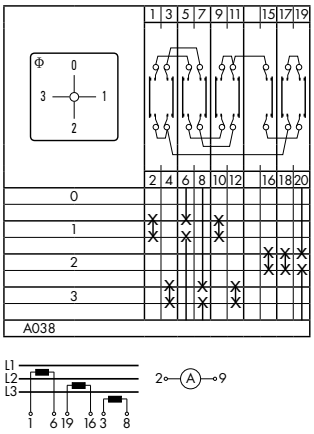
WAA037



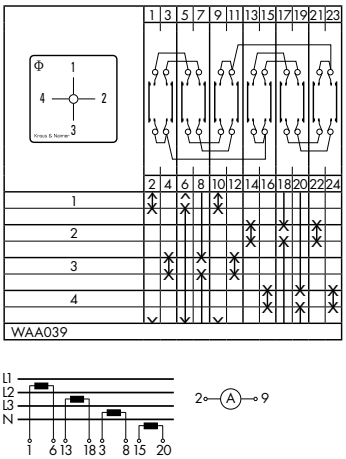
WAA019



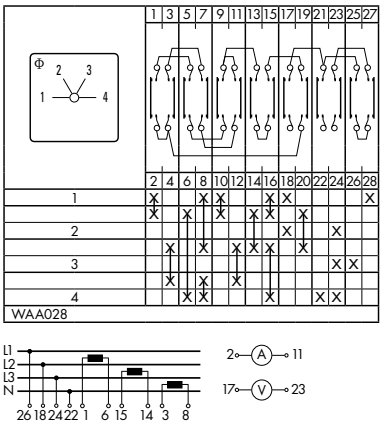
A038



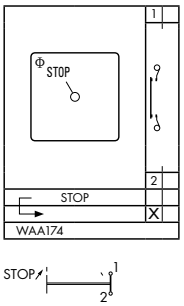
WAA039



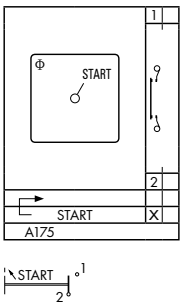
WAA028



WAA174

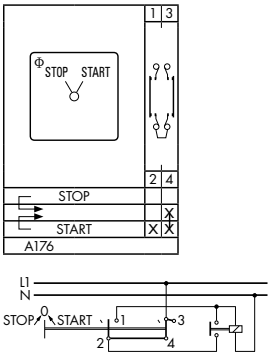


A175

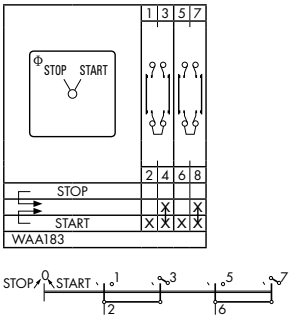


Switch functions

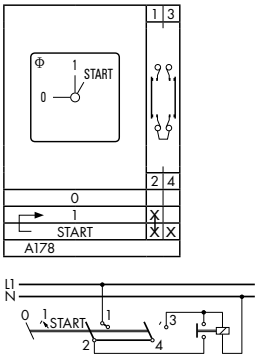
A176



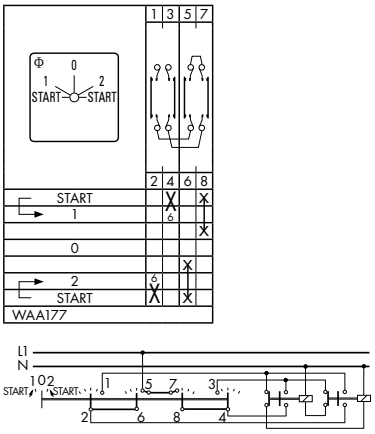
WAA183



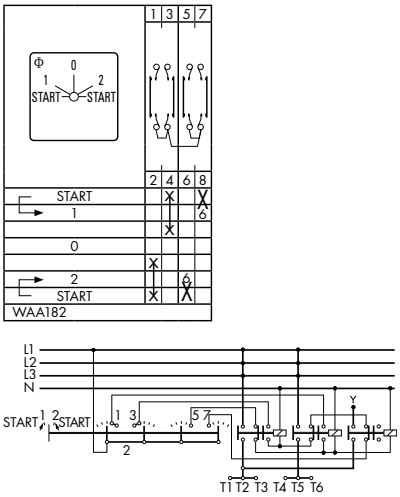
A178



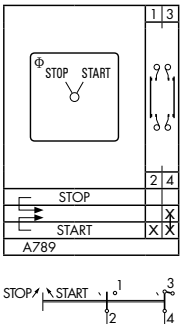
WAA177



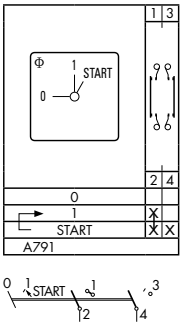
WAA182



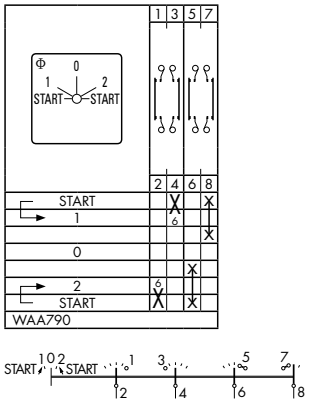
A789



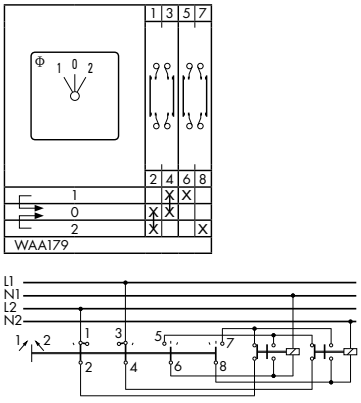
A791



WAA790

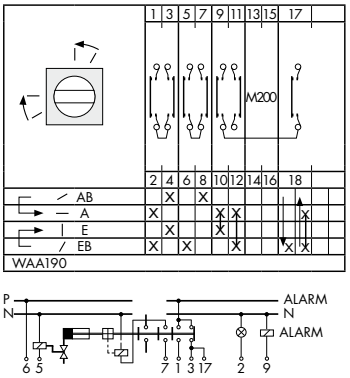


WAA179

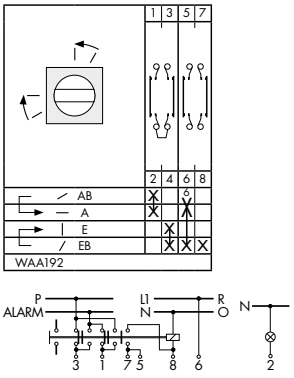


Switch functions

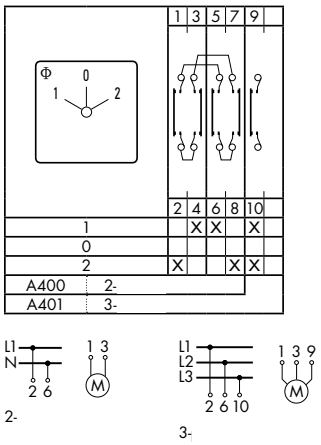
WAA190



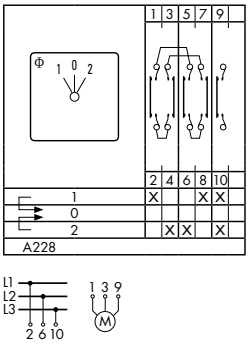
WAA192



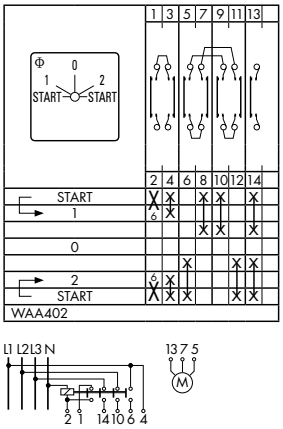
A400, A401



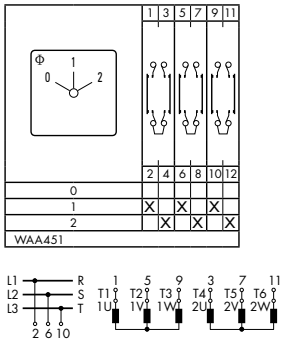
A228



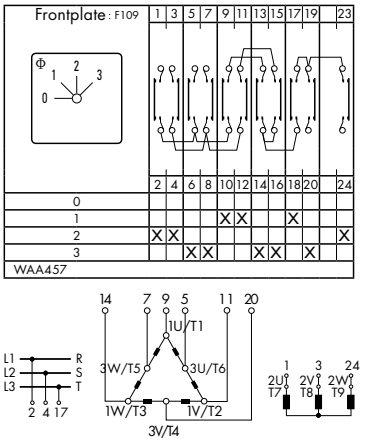
WAA402



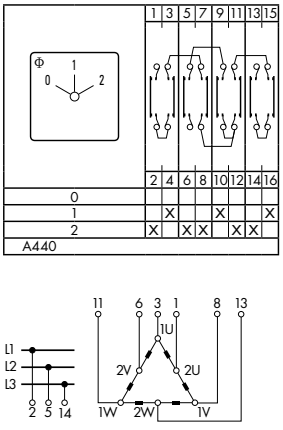
WAA451



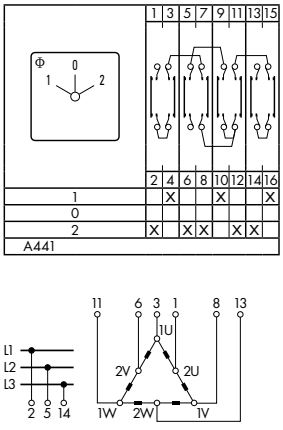
WAA457



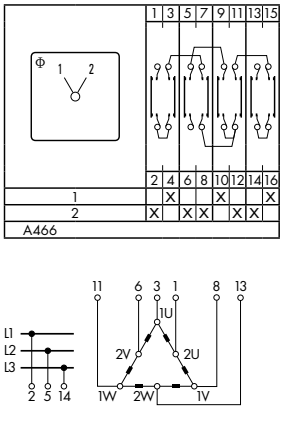
A440



A441

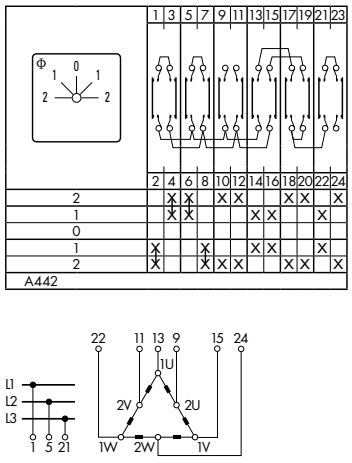


A466

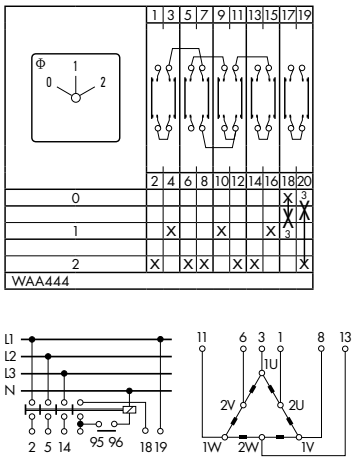


Switch functions

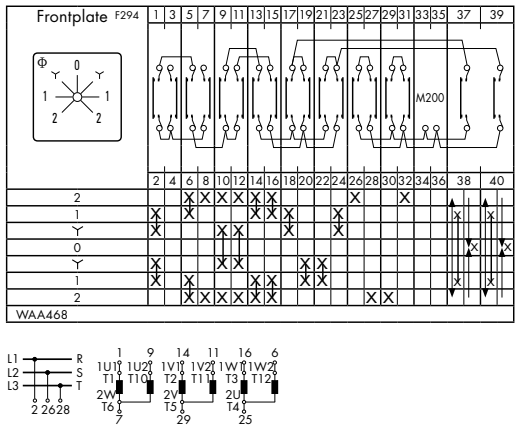
A442



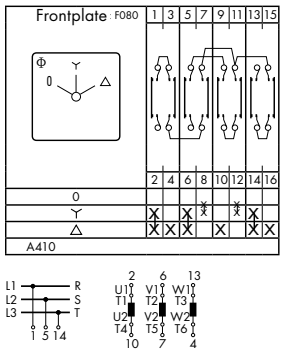
WAA444



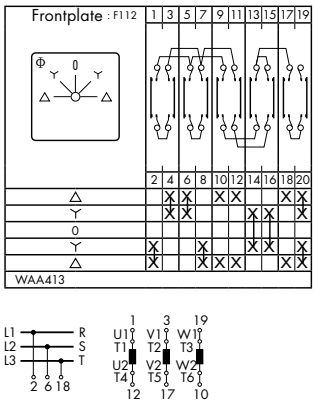
WAA468



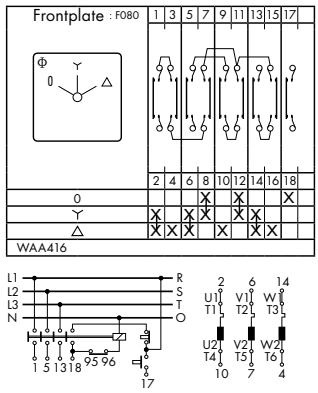
A410



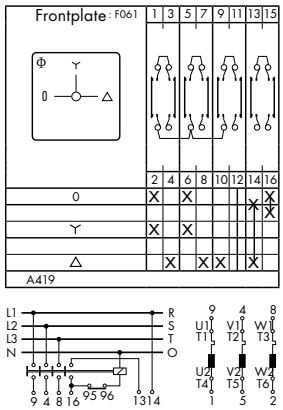
WAA413



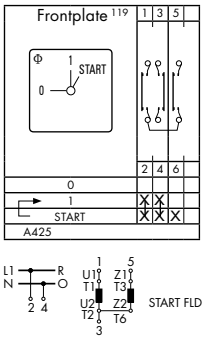
WAA416



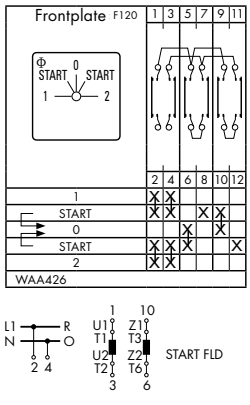
A419



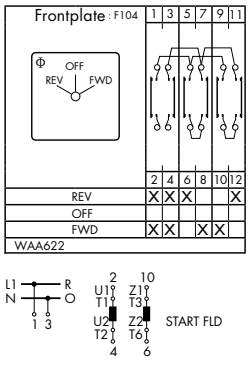
A425



WAA426



WAA622



2- or 4-hole panel mounting, IP40 — **E, E-V, ER**
2- or 4-hole panel mounting, IP66/67/69k — **EF, EF-V, ERF**
2-hole panel mounting, IP66/69k — **E22, E22-V**

For front mounting you have various options available. Type „*ER.*" for installation with additional rear Mounting plate. „*-V*" indicates that the terminals are rotated 90° clockwise.

	CGD4-1 CAD4-1 CG4.. CA4.. CH6	CH10, CA10, CA10S, CH11 CH16, CG8, CA11, CA20 CA20S, CA25, CA25S CAD11, DH10, DH11	CH10B, CH16B, CA10B CA11B, CA20B, CA25B, CG8B DH10B, DH11B, CA40, CA40S CA50, CA50S, CA63, CA63S	CA40C CA50C CA63C C80 C125 C315
Size	**S00**	**S0**	**S1**	**S2/S3**
2-hole, IP40	*E* *E-V*			
2-hole, IP66	*EF* *EF-V*			
4-hole, IP40		*E, ER* [1] *E-V*	*E, ER* [1] *E-V*	*E, ER*
4-hole, IP66		*EF, ERF* [1] *EF-V*	*EF, ERF* [1] *EF-V*	*EF, ERF*
2-hole, IP65		*E22* *E22-V*		

	CG4..	CA4..	CH6	CH10, CH11 CH16	CH10B, CH11B CH16B
A	30	30	30	48	64
B	28	29,5	46	46	56
C	4	4	4	4	4
D3	3,2	3,2	3,2	5	5
E1	-	-	-	36	48
E2	20	20	20	30	-
M1 [4]	1	1	1	0	0
D2					
E, E-V, ER	8–11	8–11	8–11	8–15	10–15
EF, EF-V, ERF	8–11	8–11	8–11	15–19	19–22
E22, E22-V	-	-	-	11–15	-

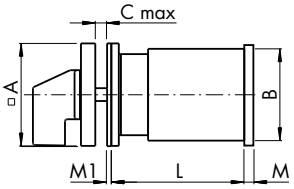
	CG8	CG8B	CA10, CA10S, CA11 CAD11	CA10B, CA11B CA20B
A	48	64	48	64
B	38	48	43	56
C	4	4	4	4
D3	5	5	5	5
E1	36	48	36	48
E2	30	-	30	-
M²	-	-	4,5	5
M1 [4]	0	0	0	0
D2				
E, E-V, ER	8–15	10–15	8–15	10–15
EF, EF-V, ERF	15–19	19–22	15–19	19–22
E22, E22-V	11–15	-	11–15	-

	DH10, DH11	DH10B, DH11B	CA20 CA20S	CA25 CA25S	CA25B
A	48 (64 [2])	64	48	48 (64 [2])	64
B	42	56	45	46	56
C	4	4	4	4	4
D3	5	5	5	5	5
E1	36 (48 [2])	48	36	36 (48 [2])	48
E2	-	-	30	30	-
M²	5,5	-	4,5	5,5	5,5
M1 [4]	0	0	0	0	0
D2					
E, E-V, ER	8–15	10–15	8–15	8–15	10–15
EF, EF-V, ERF	15–19	19–22	15–19	15–19	19–22
E22, E22-V	11–15	-	11–15	11–15	-

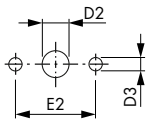
	CA40, CA40S, CA50 CA50S, CA63, CA63S	CA40C–CA63C [6]	C80 [6]	C125 [6] C200-4 [6]	C315 [6]
A	64 (88 [2])	88	88	88	130
B	55,5x64	55,5x64	84	88 [3]	126 [3]
C	4	5,5	5,5	5,5	7
D3	5 (6 [2])	6	6	6	7
E1	48 (68 [2])	68	68	68	104
M	7,6 [2]	7,6 [2]	9,4 [2]	9,4 [2] (34,5 [5])	11,9 [2]
M1 [4]	0	0	0	0	0
D2					
E, E-V, ER	10–15	13–17	13–17	13–17	15,5–20
EF, EF-V, ERF	19–22	26–30	26–30	26–30	22–25
E22, E22-V	-	-	-	-	-

[1] Not for CG.. and CH.., because of the connection direction from behind. | [2] Dimensions for ER and ERF rear mounting panel. | [3] Additional dimension for terminal lugs see page 41
[4] Additional length for EF. | [5] C200-4 with rear mounting panel (incl. additional latching mechanic) | [6] Shipment without mounting screws.

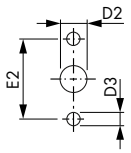
Dimension L on page 41



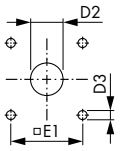
E, EF for CG4, CH6
E-V, EF-V for CA4
E22 for CG8
E22-V for CH10–CH16, CA10–CA25, CAD11/12



E, EF for CA4
E-V, EF-V for CG4, CH6
E22-V for CG8
E22 for CH10–CH16, CA10–CA25, CAD11/12



E, E-V, EF, EF-V, ER, ERF, size S0 – S3
For Face plate and rear mounting panel



Single hole mounting 16/22/30 mm, IP66, IP69k (FT. + FH.) — FH., FH.-V, FS., FS.-V, FT., FT.-V

Save time by using switches with Single hole mounting. This type of mounting is fitted about 5 times faster than a conventional four hole panel mounting. All switches with Single hole mounting have the high degree of protection, IP66. Switches supplied with escutcheon plate or front ring.

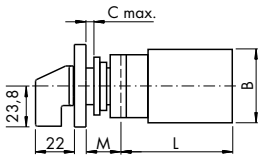
An extension ring is enclosed when two drill diameters are specified.

When ordering with the suffix ...-V, the switches can be supplied with connection terminals rotated 90 ° clockwise.

Design	Size	Face plate-/ Ring size	∅ Hole	Code
Front ring 	S00	∅ 29,5	16,2/22,3	FS1
	S0	∅ 39,4	22,3	FT1
		∅ 39,4	22,3/30,5	FT3
Square escutcheon plate 	S00	30 x 30	16,2/22,3	FS2
	S0	48 x 48	22,3	FT2
			22,3/30,5	FT4
	S1 [1]	64 x 64	22,3	FH3
Rectangular escutcheon plate 	S00	30 x 39	16,2/22,3	FS4
	S0	48 x 59	22,3	FT6
	S1 [1]	64 x 78,5	22,3	FH4

[1] with reinforced stop

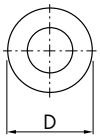
Dimension L on page 41



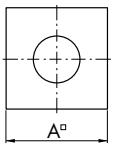
	CG4–CGD4-1 CA4–CAD4-1	CH6	CH10, CH11 CH16	CG8
A/E	30	30	48	48
A/E (FH3)			64	64
A/E (FH4)			64	64
B	28 / 29,5 [2]	46	46	38
C	5	5	6	6
D	29,5	29,5	39,4	39,4
F	39	39	59	59
F (FH4)			78,5	78,5
M	12,5	12,5	18,2	18,2
M (FH3)			25,2	25,2
M (FH4)			25,2	25,2

[2] only applies to CA4–CAD4-1

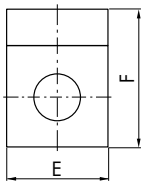
FS1
FT1, FT3



FH3
FS2
FT2, FT4

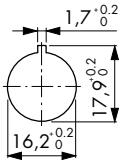


FH4
FS4
FT6

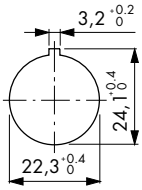


	CA10, CA10S CA11, CAD11	DH10, DH11	CA20, CA20S CA25, CA25S
A/E	48	48	48
A/E (FH3)	64	64	64
A/E (FH4)	64	64	64
B	43	42	46
C	6	6	6
D	39,4	39,4	39,4
F	59	59	59
F (FH4)	78,5	78,5	78,5
M	18,2	18,2	18,2
M (FH3)	25,2	25,5	25,2
M (FH4)	25,2	25,5	25,2

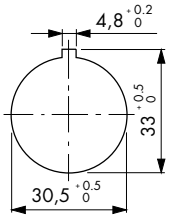
FS1, FS2, FS4



FH3, FH4
FS1, FS2, FS4
FT1, FT2
FT3, FT4, FT6

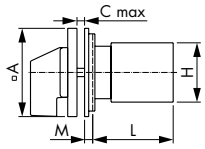


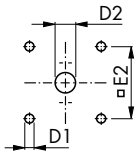
FT3, FT4



Front panel mounting using larger face plate and handle, IP40 / IP66/67, IP69k — EG, EGF

Dimension L on page 41





EG – Heavy duty latching panel, degree of protection IP40

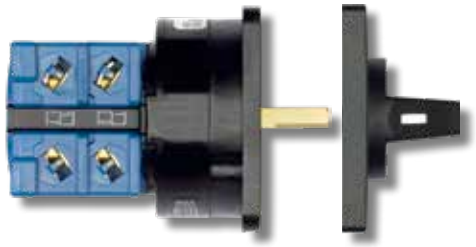
EGF – Heavy duty latching panel, degree of protection IP66/67, IP69k

	CH10, CH11 CH16	CG8	CA10, CA10S CA11, CAD11	DH10, DH11
A	64	64	64	64
C	4	4	4	4
D1	5	5	5	5
D2 (EG)	10–15	10–15	10–15	10–15
D2 (EGF)	19–22	19–22	19–22	19–22
E2	48	48	48	48
H	46	38	43	42
M	6,7	6,7	6,7	6,7

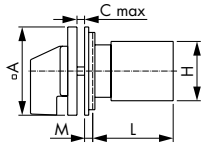
	CA20 CA20S	CA25 CA25S	CA40, CA40S, CA50 CA50S, CA63, CA63S[1]	C80[1]	C125[1]
A	64	64	88	130	130
C	4	4	5,5	7	7
D1	5	5	6	7	7
D2 (EG)	10–15	10–15	13–17	15,5–20	15,5–20
D2 (EGF)	19–22	19–22	26–30	22–25	22–25
E2	48	48	68	104	104
H	45	46	55,5 x 64	84	88
M	6,7	6,7	0,5	2	2

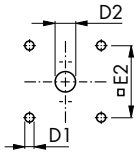
[1] Shipment without mounting screws.

Front panel mounting with heavy duty latching and metal shaft, IP40 / IP66 — KN2, KN1, KD1, KN2F, KN1F, KD1F

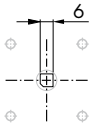


Dimension L on page 41





Square shaft KD1, KD1F



Aluminium shaft, size S0 (48 x 48)
KN2 – Degree of protection IP40
KN2F – Degree of protection IP66/67

Aluminium shaft, size S1 (64 x 64)
KN1 – Degree of protection IP40
KN1F – Degree of protection IP66/67

Shipment without mounting screws [1]

Square metal shaft, size S1 (64 x 64)
KD1 – Degree of protection IP40
KD1F – Degree of protection IP66/67

Shipment without mounting screws [1]

KN2 KN2F	CH10, CH11 CH16	CG8	CA10, CA11 CAD11	DH10 DH11	CA20	CA25
A	48	48	48	48	48	48
C	4	4	4	4	4	4
D1	5	5	5	5	5	5
D2 (KN2)	8–19	8–19	8–19	8–19	8–19	8–19
D2 (KN2F)	15– 19	15– 19	15– 19	15– 19	15– 19	15– 19
E2	36	36	36	36	36	36
H	46	38	43	42	45	46
M	5,2	5,2	5,2	5,2	5,2	5,2

KN1, KN1F KD1, KD1F	CH10, CH11 CH16	CG8	CA10, CA11 CAD11	DH10, DH11	CH10B CH16B
A	64	64	64	64	64
C	4	4	4	4	4
D1	5	5	5	5	5
D2 (KN1/KD1)	10–22	10–22	10–22	10–22	10–22
D2 (KN1F/KD1F)	19–22	19–22	19–22	19–22	19–22
E2	48	48	48	48	48
H	46	38	43	42	56
M	4,7	4,7	4,7	4,7	7

KN1, KN1F KD1, KD1F	CA10B CA11B CA20B	DH10B DH11B	CA20	CA25	CA25B	CA40 CA50 CA63
A	64	64	64	64	64	64
C	4	4	4	4	4	4
D1	5	5	5	5	5	5
D2 (KN1/KD1)	10 –22	10 –22	10–22	10–22	10–22	10–22
D2 (KN1F/KD1F)	19 –22	19 –22	19 –22	19 –22	19 –22	19 –22
E2	48	48	48	48	48	48
H	56	56	45	46	56	55,5 x 64
M	7	12	4,7	4,7	7	7

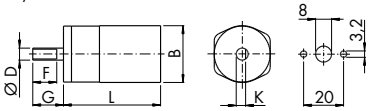
[1] Recommendation: 4 x M4 x 15 or Kit: S0D M280 N

Front panel mounting with round shafts or mosaic mounting, IP40 — E9–E94

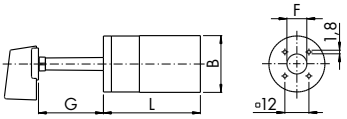
E9 – 2-hole panel mounting, round shaft Ø 6
E91 – 2-hole panel mounting, round shaft Ø 6,35

E92 – 4-hole panel mounting Siemens-Mosaic 30 mm grid depth
E93 – 2-hole panel mounting
Subklew-, Kreuzenbeck-, Symo-Mosaic
28 mm 25 mm 25 mm
E94 – 2-hole panel mounting Mauell-Mosaic 30 mm grid depth

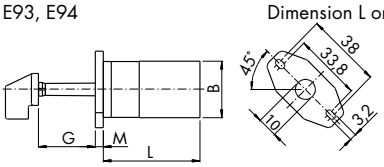
E9, E91 — Dimension L on page 41



E92 — Dimension L on page 41



E93, E94 — Dimension L on page 41



	CG4.., CGD4-1	CA4.., CAD4-1	CH6
B	28	29,5	46

	CG4.., CA4.., CH6				
	E9	E91	E92	E93	E94
D	6	6,35			
F	12	12,8			
G	15,4	17,4	32,5	28,5	32,5
K	4,7	5,5			
M				4	

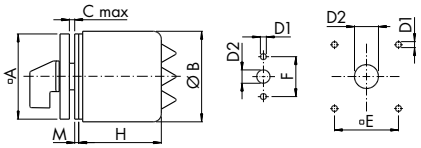
Front panel mounting with protective cover — EC., ED..

Protective covers with other mountings: see chapter OPTIONAL EXTRAS.

EC – 4-hole panel mounting, front IP40 – rear IP30
ED – 4-hole panel mounting + additional shaft seal, front IP65 – rear IP30 (CH..–CA25B)

EC1 – 4-hole panel mounting, front IP40 – rear IP42
ED1 – 4-hole panel mounting + additional shaft seal, front IP65 – rear IP42 (CH..B–CA25B)

ED22 – 2-hole panel mounting, front IP66/69k – rear IP42 (CH10–CH16, CG8, CA10–CA25, CAD..)



		CH10 CH11 CH16		CG8	CA10 CAD11		CH10B CH16B		DH10 DH11	DH10B DH11B	CA10B		CA11		CA11B		CA20 CA25		CA20B CA25B	
		EC ED	ED22	ED22	EC ED	ED22	EC ED	EC1 ED1	ED	EC ED	EC ED	EC1 ED1	EC ED	ED22	EC ED	EC1 ED1	EC ED	ED22	EC ED	EC1 ED1
A		64	48	48	48	48	64	64	64	64	64	64	48	48	64	64	64	48	64	64
B		68	74	74	50	74	68	74	68	88	88	74	50	74	88	74	68	74	88	74
C	EC, EC1	4			4		4	4	4	4	4	4	4		4	4	4		4	4
C	ED, ED1, ED22	2	4	4	2	4	4	4	2	4	2	4	2	4	4	4	2	4	4	4
D1		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
D2	EC, EC1	8-15			8-15		10-15	10-15	8-15	10-15	10-15	10-15	8-15		10-15	10-15	8-15		10-15	10-15
D2	ED, ED1, ED22	19-22	11-15	11-15	15-19	11-15	19-22	19-22	19-22	19-22	19-22	19-22	15-19	11-15	19-22	19-22	19-22	11-15	19-22	19-22
E		48			36		48	48	48	48	48	48	36		48	48	48		48	48
F			30	30		30								30				30		
M	ED, ED22	2	1,5	1,5	2	1,5	2		2	2	2		2	1,5	2		2	1,5	2	
1			74,3	74,3	53,5	74,3		72,7	103	127		73,7	53,5	74,3		73,7		74,3		73,7
2			74,3	74,3	53,3	74,3		72,7	103	127		73,7	53,5	74,3		73,7		74,3		73,7
3			94,3	94,3	67,5	74,3		92,7	103	127		73,7	67,5	74,3		93,7		74,3		93,7
4		103	94,3	94,3	67,5	74,3	114,5			127		93,7	81,5	94,3		93,7		94,3		93,7
5	Measure H			94,3	81,5	94,3	127			139,5		93,7			103		103		103	
6	according to				81,5	94,3	139,5			164,5	103				127				127	
7	number of						164,5			177	127				139,5				139,5	
8	stages						177				127				152				152	
9											139,5				164,5				164,5	
10											152				177				177	
11											152									
12											164,5									

Base mounting (without door clutch) — VE, VE-V, VE1, VE1-V, VF, VF-V, VE22, VE22-V, VF22, VF22-V

VE – Mounting plate and escutcheon plate with 4-hole panel mounting, IP40

VE1 – Snap-on base mounting for DIN rail acc. to EN 60715, escutcheon plate with 4-hole panel mounting, IP40

When ordering with the suffix *...-V*, the switches can be supplied with connection terminals rotated by 90 ° clockwise.
(Not applicable for CA25B – CA63S)

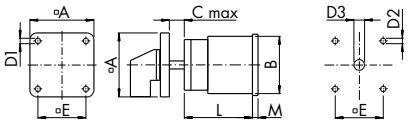
VF – Mounting plate and escutcheon plate with 4-hole panel mounting, Integrated door clutch for enclosures, IP65

VE22 – Mounting plate and escutcheon plate with 2-hole panel mounting, IP40

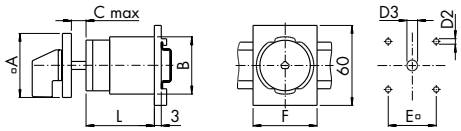
VF22 – Mounting plate and escutcheon plate with 2-hole panel mounting, Integrated door clutch for enclosures, IP65

Door clutches: see Chapter ***Optional extras / Door clutches***

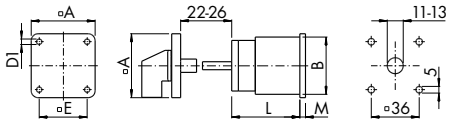
VE / VE-V — Dimension L on page 41



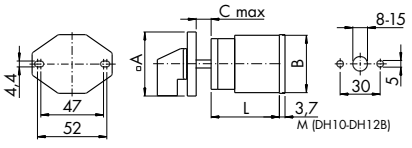
VE1 — Dimension L on page 41
Size S0, S1



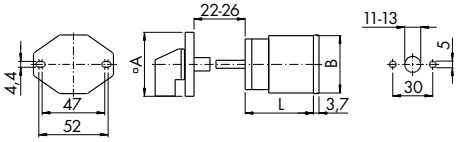
VF / VF-V — Dimension L on page 41
Size S0



VE22 / VE22-V — Dimension L on page 41
Size S0



VF22 / VF22-V — Dimension L on page 41
Size S0



	CH10, CH11 CH16	CG8	CA10, CA10S CA11, CAD11	CA10B, CA20B
A	48 (64 [1])	48	48	64
B	46	38	43	56
C	10,5	10,5	10,5	13,5
D1	4,1	4,1	4,1	4,1
D2	5	5	5	5
D3	8–15	8–15	8–15	10–15
E	36 (48 [1])	36	36	48
F	48	48	48	70
M	5,2	2,2	2,2	2,5

	DH10, DH11	DH10B, DH11B
A	48	64
B	42	56
C	10,5	13,5
D1	4,1	4,1
D2	5	5
D3	8–15	10–15
E	36	48
F	48	70
M (VE)	3,2	2,5
M (VE22)	1,9	-
M (VF)	3,2	-
M (VF22)	1,9	-

	CA20 CA20S	CA25 CA25S	CA25B
A	48	48 (64 [1])	64
B	45	46	56
C	10,5	10,5	13,5
D1	4,1	4,1	4,1
D2	5	5	5
D3	8–15	8–15	10–15
E	36	36 (48 [1])	48
F	48	48	70
M	2,2	3,2	2,5

	CA40, CA40S CA50, CA50S CA63, CA63S	C80	C125 C200-4	C315
A	64 (88 [1])	88	88	128
B	55,5x64	84	88	126
C	13,5	16	16	19,3
D1	5,4	5,4	5,4	7
D2	5 (6 [1])	6	6	7
D3	10–15	13–17	13–17	15,5–20
E	48 (68 [1])	68	68	104
F	70	-	-	-
M	5,1	8,9	8,9	11,4

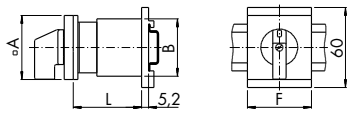
[1] Dimensions for rear mounting panel

Base mounting for operation in control cabinet, IP40 / IP66/67, IP69k — VE1E, VE1F

VE1E – Snap-on base mounting for DIN rail acc. to EN 60715. Escutcheon plate is fixed on switch by screws. IP40.
Size S00 and S0: recommended to CG4.., CG8, CH10–CH16
(Size S1: Switch in mounting E + S1 M999/D-0031)

When ordering with suffix ...-V, the switches can be supplied with connection terminals rotated by 90 ° clockwise.
(Not applicable for CA25B – CA63S)

Dimension L on page 41



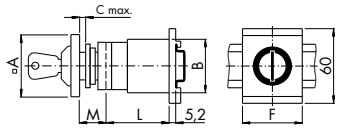
	CG4-CGD4-1	CH10 CH11 CH16	CG8	CA10, CA10S CA11, CAD11	DH10 DH11	CA20 CA20S	CA25 CA25S
A	30	48	48	48	48	48	48
B	28	46	38	43	42	45	46
F	35,5	48	48	48	48	48	48
M	22	28,3	28,3	28,3	28,3	28,3	28,3

VE1F – Snap-on base mounting for DIN rail acc. to EN 60715. Escutcheon plate is fixed by Single hole mounting, for use with key-lock devices[1]. IP66/67, IP69k.
Size S00 and S0: recommended CG4.., CG8, CH10–CH16

Notice:

Suitable key-lock devices see Chapter ***Optional extras***

Dimension L on page 41



Ordering example size S00:

*CG4.A221.*FS2*
S00.V750D/2J
S00.M999/D-0030

Ordering example size S0:

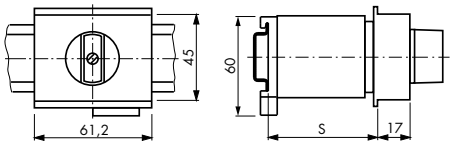
*CH10.A221.*VE1F*
S0.V750D/3J/M1

	CG4-CGD4-1	CH10 CH11 CH16	CG8	CA10, CA10S CA11, CAD11	DH10 DH11	CA20 CA20S	CA25 CA25S
A	30	48	48	48	48	48	48
B	28	46	38	43	42	45	46
F	35,5	48	48	48	48	48	48
M	12,5	25,2	25,2	25,2	25,2	25,2	25,2

[1] Specify optional extras separately

Base mounting 45 mm standard knock-out, IP20 — VE2, VE21

VE2 – Snap-on base mounting for DIN rail acc. to EN 60715 and escutcheon plate for 45 mm standard knock-out.

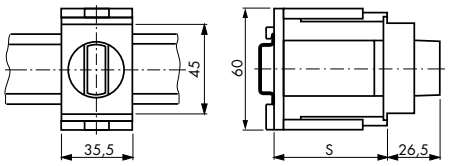


VE2	CH10, CH11 CH16	CG8	DH10, DH11	CA10, CAD11	CA11 CA20	CA25
S min.	Number of stages					
46	1	1	1	3	1	
50	2	2				1
61		3	2	4	2	2
67	3			5		
69					3 [1]	3

[1] Only for CA11

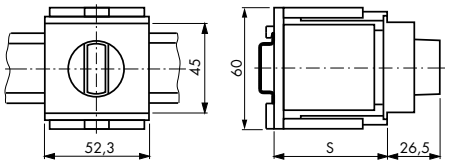
VE21 – Snap-on base mounting for DIN rail acc. to EN 60715 and escutcheon plate for 45 mm standard knock-out. Handle is adjustable in height.

VE21 (CG4.., CA4..)



VE21	CG4-CGD4-1	CG8	CH10, CH11 CH16	DH10, DH11
S min.	Number of stages			
44	1	1	1	1
46	2	2		
50			2	
54				2
58	3			
60		3		
64			3	
70				
72		4		3

VE21 (CH10–CH16, CG8, CA10–CA20, DH11/12)
VE21V (CA25)



VE21	CA4-CAD4-1	CA10, CAD11	CA20	CA25
S min.	Number of stages			
44	1 / 2	1 / 2	1 / 2	1
46	3	3		2
54	4			
56			3	
60				3
62	5			
66		4 / 5		
70	6		4	
74		6		4

Dimension L

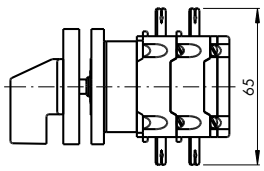
Stages	CG4-CGD4-1	CA4-CAD4-1	CH6	CH10, CH11 CH16	CH10B CH16B	CG8	CG8B	CA10, CA10S [2] CAD11	CA10B	CA11	CA11B
1	38,5	30	46	43,5	48,9	40,7	46,1	33,5	38,9	36,7	42,1
2	50,5	38	60	57,5	62,9	53,4	58,8	43	48,4	49,4	54,8
3	62,5	46	74	71,5	76,9	66,1	71,5	52,5	57,9	62,1	67,5
4	74,5	54	88	85,5	90,9	78,8	84,2	62	67,4	74,8	80,2
5	86,5	62	-	99,5	104,9	91,5	96,9	71,5	76,9	87,5	92,9
6	98,5	70	-	113,5	118,9	104,2	109,6	81	86,4	100,2	105,6
7	110,5	78	-	127,5	132,9	116,9	122,3	90,5	95,9	112,9	118,3
8	122,5	86	-	141,5	146,9	129,6	135	100	105,4	125,6	131
9	-	94	-	155,5	160,9	142,3	147,7	109,5	114,9	138,3	143,7
10	-	-	-	169,5	174,9	155	160,4	119	124,4	151	156,4
11	-	-	-	183,5	188,9	167,7	173,1	128,5	133,9	163,7	169,1
12	-	-	-	197,5	202,9	180,4	185,8	138	143,4	176,4	181,8

Stages	DH10, DH11	DH10B, DH11B	CA20 CA20S [2/5]	CA20B	CA25 CA25S [2]	CA25B	CA40, CA40C [3], CA40S [4] CA50, CA50C [3], CA50S [4] CA63, CA63C [3], CA63S [4]	C80	C125 C200-4 [1]	C315 [1] C316 [1]
1	43,5	48,9	37,7	43,1	39	44,4	42,5	61,5	67,5	78,6
2	61	66,4	50,4	55,8	53	58,4	55,2	88	100	117,2
3	78,5	83,9	63,1	68,5	67	72,4	67,9	114,5	132,5	155,8
4	96	101,4	75,8	81,2	81	86,4	80,6	141	165	194,4
5	113,5	118,9	88,5	93,9	95	100,4	93,3	167,5	197,5	233
6	131	136,4	101,2	106,6	109	114,4	106	194	230	271,6
7	148,5	153,9	113,9	119,3	123	128,4	118,7	220,5	262,5	310,2
8	166	171,4	126,6	132	137	142,4	131,4	247	295	348,8
9	183,5	188,9	139,3	144,7	151	156,4	144,1	273,5	327,5	387,4
10	201	206,4	152	157,4	165	170,4	156,8	300	360	426
11	218,5	223,9	164,7	170,1	179	184,4	169,5	326,5	392,5	464,6
12	236	241,4	177,4	182,8	193	198,4	182,2	353	425	503,2

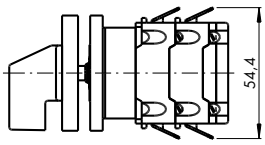
[1] Look for dimensions of lug terminals on this page. | [2] Type supplement S for CA10S, CA20S , CA25S = L + 17,3 | [3] CA40C, CA50C, CA63C = L + 8,2 | [4] CA40S, CA50S, CA63S = L + 20 | [5] CA25S only up to 6 stages possible

Dimensions of plug-in connection and lug (bolt) terminals

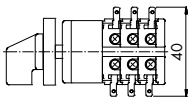
CH...-4 (Connection straight 2 x 2,8 or 1 x 6,35)



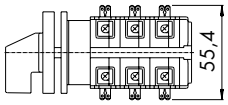
CH...-6 (Connection rotated by 90 ° clockwise 2 x 2,8 or 1 x 6,35)



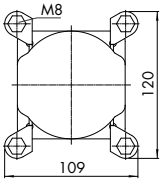
CA4-4 (Connection straight 1 x 2,8)



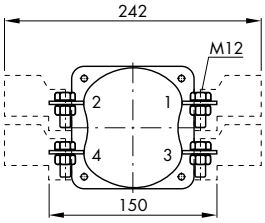
DH...-4 (Connection straight 2 x 2,8 or 1 x 6,35)



C200-4



C315, C316



Plastic enclosures IP66/67

Enclosures series with high mechanical strength, oversized wiring space and cover clutch.

KS-, KL series ➡ with high UV resistance
CS-, CL series ➡ for aggressive environment such as oil, grease and other chemical substances

There are two knock-outs for metric threads at the top and bottom acc. to EN 50262. A protective earth and neutral terminal per enclosure is included in delivery. Size S0 enclosures are equipped with additional lateral knock-outs and a cover interlock, which allows opening without dismantling the handle and locking cover in one switch position optional.

Without cover interlock

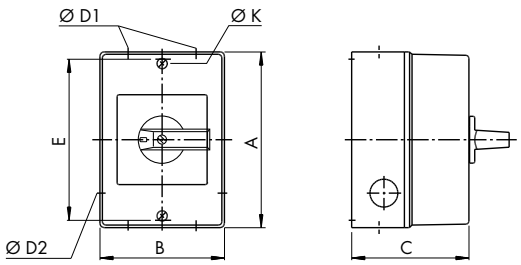
switch-type	Max. Number of stages	Mounting
CG4–CGD4-1, CG6 CA4–CAD4-1	2 3	*KS3, CS3*
CA10 CA11, CA20, CA25, CG8, CH10–CHR16	6 5 4	*KS50, CS50*
CH10–CHR16 CA10 CA11, CA20, CA25, CG8	2 3 2	*KL50, CL50*

With cover interlock (switch open at nine o'clock position)

switch-type	Max. Number of stages	Mounting
CA10 CA11, CA20, CA25, CG8, CH10–CHR16	6 5 4	*KS51, CS51*
CH10–CHR16 CA10 CA11, CA20, CA25, CG8	2 3 2	*KL51, CL51*

With cover interlock (switch open at twelve o'clock position)

switch-type	Max. Number of stages	Mounting
CH10–CHR16, CA25, CG8 CA10 CA11, CA20	4 6 5	*KS52, CS52*
CH10–CHR16 CA10 CA11, CA20, CA25, CG8	2 3 2	*KL52, CL52*



Type	Max. number of stages	Mounting	A	B	C	Conduit entries per 4 x D1	Conduit entries per 2 x D2	E	K
CA4–CAD4-1 CG4–CGD4-1	2 1	KS3 CS3	90	70	60	16	–	82	4,2
CA4–CAD4-1 CG4–CGD4-1 CG6	3 2 2		90	70	77	16	–	82	4,2
CA10 CA11 CA20, CA25, CG8 CH10–CHR16	4 3 2 2	KS50, KS51, KS52 CS50, CS51, CS52	121	86	80	20/25[1]	20	110	4,2
CA10 CA11, CA20 CA25, CG8, CH10–CHR16	6 5 4 4		121	86	106	20/25[1]	20	110	4,2
CA10 CA11, CA20 CA25, CG8, CH10–CHR16	3 2 2 2	KL50, KL51, KL52 CL50, CL51, CL52	160	85	80	20	20	150	4,2

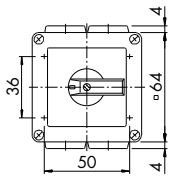
[1] CS.. only 20

Small-sized Plastic enclosures, IP42 / IP65 — PN., PF.

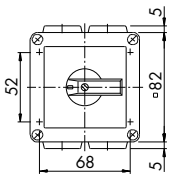
Compact size and threaded entries.
Option with built-in lamp. Take a look on page 54
Includes a protective earth terminal.

PN1/PN4 – IP42
PF1/PF4 – IP65

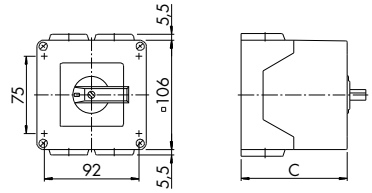
CA10



CA11, CA20, CA10B, CA11B, CA20B, CA25



CA40, CA50, CA63



Type	Number of stages	PN1 C	PF1 C	Conduit entries per 4 x
CA10	1 2 3 4	36,6 45,8 55,3 64,8	41,3 50,8 60,3 69,8	M20
CA11, CA20, CA11B, CA20B	1 + 2	59,7	64,7	M20
CA11, CA20, CA10B, CA11B, CA20B	3 + 4 [1]	85,1	90,1	M20
CA25	1 + 2 3 4	59,7 85,1 93	64,7 90,1 98	M20
Type	**Number of stages**	**PN4 C**	**PF4 C**	**Conduit entries per 4 x**
CA40, CA50, CA63	1–3 4–6	89 132	94,5 137,5	M25

[1] CA10B only for 4 stages

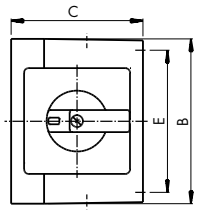
Additional protective earth-/neutral terminal

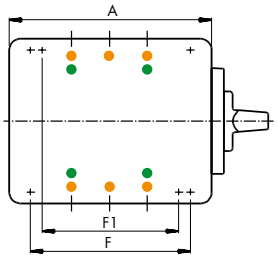
2007922 | S0D.T410.A — for CA10
2014595 | S1D.T410.A — for CA11, CA20, CA10B, CA11B, CA20B, CA25
2048267 | S1D.T430.A — for CA40, CA50, CA63

Aluminum enclosures, IP65 — GK.

Rugged design for harsher environments.
Includes a protective earth terminal.

switch-type	Max. Number of stages	With metric thread	without Conduit entries
A11	10		
CA10	3		
CA11, CA20	2		
CA10B	12	*GK1*	*GK9*
CA11B, CA20B	10		
CA25B	9		
CA40, CA50, CA63	10		



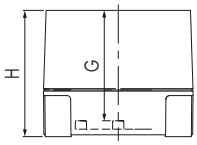


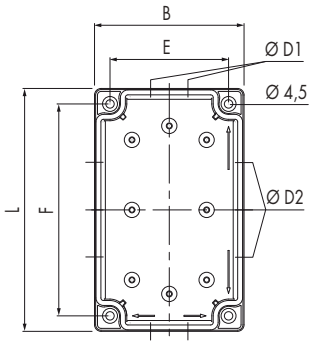
switch-type	Stages	A	B	C	E	F	F1	Conduit entries
CA10, CA11, CA20	3 2	80	75	57	63	–	52	4 x M20
CA10B CA11B, CA20B CA25B	4 3 2	100	100	80	86	66	–	4 x M20
A11 CA10B CA11B CA20B, CA25B CA40, CA50, CA63	5 7 6 5 5	140	140	90	120	93	–	4 x M25
A11 CA10B CA11B, CA20B CA25B CA40, CA50, CA63	10 12 10 9 10	200	140	90	93	180	–	6 x M25

Polycarbonate enclosures

For use in harsh environments.
Includes base part, cover and cover screw set

Colour: Light grey, RAL 7035
Degree of protection: IP66/67
Protection class: Ik 08
Insulated, high chemically resistance





Length x width	Height*	Name	Art. no.
130 x 80	100	ST4.M311	**2152995**
130 x 130	75	ST4.M212	**2054960**
	100	ST4.M312	**2054964**
	125	ST4.M412	**2054969**
180 x 130	100	ST4.M313	**2054965**
	125	ST4.M413	**2054970**
	150	ST4.M513	**2054972**
180 x 180	125	ST4.M414	**2054971**
255 x 180	150	ST4.M515	**2054974**

*More enclosure heights on request

	B	D1	D2	E	F	G	H	L
ST4.M311	80	1 x 25/16	2 x 32/20	63,5	113,5	86,3	100	130
ST4.M212	130	2 x 25/16	2 x 32/20	113,5	113,5	61,0	75	130
ST4.M312	130	2 x 25/16	2 x 32/20	113,5	113,5	86,2	100	130
ST4.M412	130	2 x 25/16	2 x 32/20	113,5	113,5	111,3	125	130
ST4.M313	130	2 x 32/20	3 x 25/16	113,5	163,5	86,2	100	180
ST4.M413	130	2 x 32/20	3 x 25/16	113,5	163,5	111,3	125	180
ST4.M513	130	2 x 32/20	3 x 25/16	113,5	163,5	135,9	150	180
ST4.M414	180	3 x 25/16	3 x 32/20	163,5	163,5	111,3	125	180
ST4.M515	180	3 x 32/20	3 x 25/16 + 2 x 32/20	163,5	238,5	135,9	150	255

Drill pattern for switch installation, symmetric

Drill holes for	Name
Single hole mounting Ø 22,5 mm	ST4.T999/D-1402
Single hole mounting Ø 30 mm	ST4.T999/D-1403

Drill holes for	Name
Four hole mounting, escutcheon plate 48 x 48	ST4.T999/D-1400
Four hole mounting, escutcheon plate 64 x 64	ST4.T999/D-1401
Four hole mounting, escutcheon plate 88 x 88	ST4.T999/D-1404

Drill holes for	Name
Switch with half-cylinder lock V755/..	ST4.T999/D-1320

Drill holes for	Name
Switch with half-cylinder lock V765/.. only for enclosures with dimensions L from 180 mm	ST4.T999/D-1600

Ordering example:
ST4.M212
ST4.T999/D-1400

DIN rails

2017934 | ST5.A000.03
2017933 | ST5.A000.02

2017935 | ST5.A000.04
2018043 | ST6.A000.97

Dimensions	For enclosures with width
65	80
115	130
165	180
240	255

7,5 mm root face

Mounting panel

2055014 | ST5.A000.54
2017966 | ST5.A000.64
2147286 | ST5.A000.66

L x W 148 x 98, for enclosures with L x W 180 x 130
L x W 148x148, for enclosures with L x W 180 x 180
L x W 223x148, for enclosures with L x W 255 x 180

2 mm steel plate

Protective earth/Neutral terminals

2055043 | ST5.A022 + **2017767** | ST1.A100.73
2055044 | ST5.A022/N + **2017767** | ST1.A100.73

Protective earth terminal + spacer for DIN rail
Neutral terminal + spacer for DIN rail

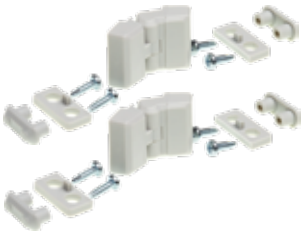
2055047 | ST5.A024
2055048 | ST5.A024/N

Protective earth terminal isolated for mounting panel
Neutral terminal isolated for mounting panel

Max. Permissible Wire Gage (use copper wire only)	
Single-core or stranded wire	6 mm²
Flexible wire	6 mm²
Flexible wire with sleeving in accordance with DIN 46228	4 mm²
Wire stripping	12 mm
Tightening torque	1,3 Nm

Hinge unit

2017910 | ST4.A000.SP



1 pair incl. fixing screws

Cover screw set

2017909 | ST4 A000.01

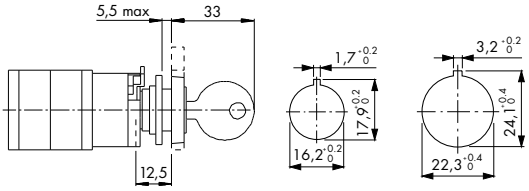
4 cover screws and 4 fixing screws for DIN rail and mounting panel

Key-lock devices for single hole mounting 16/22 mm, IP66/67/69k

Size S00

V750D/2.

Spare key 601
2005442 | S00.V750.S2



(Use for safety requirements V750D/D.)

Ordering example:	
*CA4.A200*FS2*	
S00.V750D/	*2 H*
2	= Standard profile 601
	= Key removable

For switch size S00	
With Front ring Ø 29,5 mm	Mounting FS1
With escutcheon plate 30 x 30 mm	Mounting FS2
With escutcheon plate 30 x 39 mm	Mounting FS4

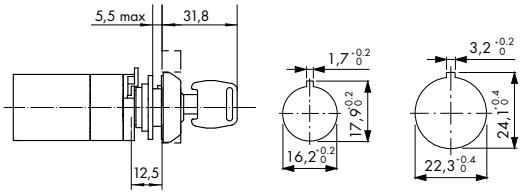
Key removable

60°	90°	180°
M H P N J Q	G	C D

Size S00 with premium MICROMEC-Lock

V750D/5.

Spare key MM600
2311367 | S00.V750/MM600



Ordering example:	
*CA4.A200*FS2*	
S00.V750D/	*5 F*
5	= MICROMEC-Lock, profile MM600
	= Key removable

For switch size S00	
With front ring Ø 29,5 mm	Mounting FS1
With escutcheon plate 30 x 30 mm	Mounting FS2
With escutcheon plate 30 x 39 mm	Mounting FS4

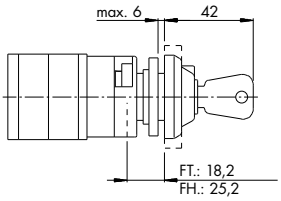
Key removable

12 o'clock	9 o'clock	90°	180°
A	B	E F G R	C D

Size S0

V750D/3.

Spare key KN101
2006230 | S0C.V750.S2



Ordering example:	
*CA10.A200*FT2*	
S0C. V750D/	*3 G*
3	= Standard profile KN101
	= Key removable

For switch size S0	
With front ring Ø 39,4 mm	Mounting FT1
With escutcheon plate 48 x 48 mm	Mounting FT2
With escutcheon plate 64 x 64 mm	Mounting FH3
With escutcheon plate 48 x 59 mm	Mounting FT6
With escutcheon plate 64 x 78,5 mm	Mounting FH4

Key removable

45°	60°	90°	180°
K S	H J M N P Q X	G	C D T U V W

Key-lock device for base mounting VE21

Size S00

V750D/..

(Use for safety requirements V750D/5.)

Ordering example:

*CA4.A200*VE21*

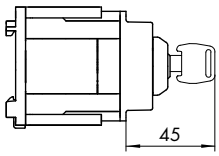
S00.V750D/ **5** *A*

5	= Premium MICROMEC-Lock, profile MM600
2	= Standard profile 601
	= Key removable (refer scheme below)

We recommend mounting *VE21-V when using CG4. This type of mounting provides vertical terminals (top and bottom) instead of standard horizontal terminals (left and right).
Possible number of stages: CA4.. = 2-5, CG4.. = 1-3

Spare key

5 **2311367** | S00.V750/MM600
2 **2005442** | S00.V750.S2



Key removable with MICROMEC-Lock

12 o'clock	9 o'clock	90°				180°
A	B	E	F	G	R	C, D

Key removable with standard lock

60°						90°	180°
M	H	P				G	C, D
N	J	Q					

Size S0

V750D/3.

Ordering example:

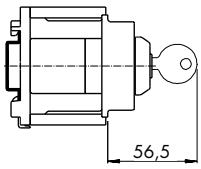
*CH10.A200*VE21*

S0.V750D/ **3** *G*

3	= Standard profile KN101
	= Key removable

Spare key KN101

2006230 | S0C.V750.S2



Key removable

45°		60°				90°	180°
K		M	H	P		G	C, D
S		N	J	Q			

Key covers

Red

2005420 | S00.V750.52

For key S0C.V750.S2

2005421 | S00.V750.62

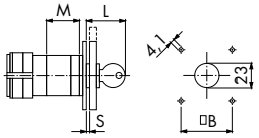
For key S00.V750.S2

Key-lock device with premium Kaba 8 lock, Standard profile AS158274 (compatible with 316201), IP40

Four hole panel mounting, (For switch size S0, shipment without mounting screws)[1]

V750D/.../.

Spare key AS158274
2013625 | S1C.V760.S2
(AS158274, compatible with Kaba 316201)



Ordering example:
*CA10.A200*E*
S0.V750D/ A 1 A / 1

A	= square escutcheon plate
B	= rectangular escutcheon plate
1	= Kaba 8 profile, cylinder 1065, for programs A to G
2	= Kaba 8 profile, cylinder 1262, for programs G to L
	= Key removable (refer scheme below)
1	= escutechon plate 48 x 48 □ , 48 x 59 □, (Mounting E)
11	= escutechon plate 64 x 64 □ , 64 x 79 □, (Mounting EG)

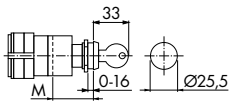
Key removable	B (E)	B (EG)	M (E)	M (EG)	S	L (E)	L (EG)
1A–1G	36	48	30,5	32,2	1–3,5	40,3	39,8
2G–2L					1–12,5	49,3	48,8

[1] Recommendation: 4 x M4 x 15 or Kit: S0D.M280.N (for S max. 3,5 mm)

Single hole mounting 25mm and front ring Ø 35mm (For switch size S0)

V750D/..1

Spare key AS158274
2013625 | S1C.V760.S2
(AS158274, compatible with Kaba 316201)



Key removable	M
1A–1G	37,2
2G–2L	47,2

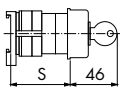
Ordering example:
*CA10.A200*EL*
S0.V750D/ 1 A 1

1	= Kaba 8 profile, cylinder 1065, for programs A to G
2	= Kaba 8 profile, cylinder 1262, for programs G to L
	= Key removable (refer scheme below)

Base mounting, mounting VE2, (For switch size S0)

V750D/..2

Spare key AS158274
2013625 | S1C.V760.S2
(AS158274, compatible with Kaba 316201)



Max. number of stages, mounting VE2					
S	CA10	CA11	CA20	CG8	CH10
50	1	–	–	–	–
61	2	1	1	1	1
67	–	2	2	–	–
69	3	2	2	–	–

Ordering example:
*CA10.A200*VE2*
S0.V750D/ 1 A 2

1	= Kaba 8 profile, cylinder 1065, for programs A to G
2	= Kaba 8 profile, cylinder 1262, for programs G to L
	= Key removable (refer scheme below)

Key removable on this page

12 o'clock	9 o'clock	30°	45°	60°	90°	180°
A	B	L	K	H, J	E, F, G	C, D

Key-lock device with Kaba 8 lock, cylinder 1007, profile AS158274 (compatible with 316201), IP40

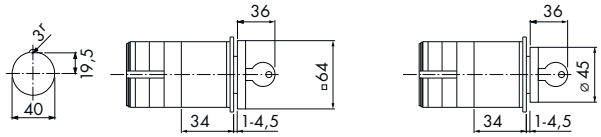
Single hole mounting 40mm (For switch size S1)

V750/A1

Front ring Ø 45 mm (Mounting EL1)
Escutcheon plate 64 x 64 mm (Mounting EL2)

Key can only be removed in 12 o'clock position.
Central locking system is available.

Spare key AS158274
2013625 | S1C.V760.S2
(AS158274, compatible with Kaba 316201)



Single hole mounting 40 mm, with additional electromechanical interlock (For switch size S1)

V750/A1+V140

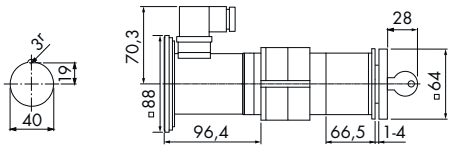
Escutcheon plate 64 x 64 mm (Mounting EL2)

Key can only be removed in 12 o'clock position.
Central locking system is available.
The interlock device is operated by energizing or de-energizing the electromechanical system.

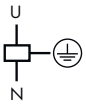
For major features of solenoid see Chapter
ELECTROMECHANICAL INTERLOCK DEVICE

Max. ambient temperature: 35 °C for 24 hours with peaks up to 40 °C

Spare key AS158274
2013625 | S1C.V760.S2
(AS158274, compatible with Kaba 316201)



Magnet



Key covers 2017

2220246 | S0D.V750.92

Red
For Kaba 8 key.
Other colours are available.

Key-lock device with half-cylinder lock, IP66

Single hole mounting 22 mm (For switch size S0)

V750E/..

Key-lock device V750E with half-cylinder is equipped with a Single hole mounting 22 mm for switch size S0. The key can be removed in 12 o'clock position or for cam switches in every 60 ° switching angle position in up to six switch positions. The device with half-cylinder can be supplied with standard lock cylinders manufactured by BKS or IKON.

Ordering example:

*CA10.A200*FT*

S0.V750E/ C 1

A = BKS-lock, profile S1
C = IKON-lock, profile 360012 [1]
= Key removable (refer scheme below)

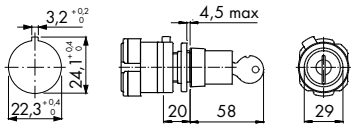
Key removable

1 ○ 2 ⊕

[1] Only possible with locking program 2.

Spare key

A no longer available
C **2012774** | S1B.V760.VA2



Key-lock device with premium DOM-lock, IP66, 1000 different locking numbers

Single hole mounting 22 mm (For switch size S0)

V756/D..

Key-lock device with half-cylinder is equipped with a Single hole mounting 22 mm for switch size S0 and can be used in conjunction with switches of size S0. These must be ordered separately. The key can be removed in 12 o'clock position or for cam switches every 60 ° switching angle position in up to six switch positions.
Profiles from 0001 to 1000 available. High security against key passing.

Ordering example:

K0.M999/D-0880
S0D.V756/ D 1 /KN0137/A
K0.M999/D-0880
S0D.V756/ D 1 /KN0251/A

D = *DOM-lock*
= Key removable (refer scheme below)

Ordering example:

CG8.A722.FT

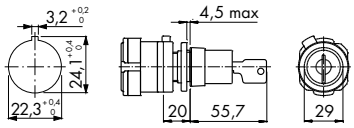
Key removable

1[1] ○ 6 ⊕

[1] 360° Turning movement

Spare key

K0.M999/D-0890
S0D.V765/D1/KN..../A2



Key-lock device for enclosures, IP40

PN1-enclosure

For 1-stage switches of size S0, type CA11, CA20 and 2-stage switches of size S0, type CA10–CA20

Ordering example:

*CA10.A215*PN1*

S0.V750/ C 0 -PN

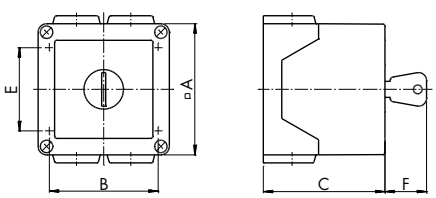
S0D.T422.MA1

= Key removable (refer to table below)
0 = Standard-cylinder KN101
S0D.T422.MA1 = for 2-stage switches of type CA10
S1D.T426.MA1 = for 1-stage switches of types CA11 + CA20
S1D.T427.MA1 = for 2-stage switches of types CA11 + CA20

Spare key KN101
2006230 | S0C.V750.S2

Key removable

60°	90°	180°
M ⊕ H ⊕ P ⊕ N ⊕ J ⊕ Q ⊕	G ⊕	C ⊕ D ⊕



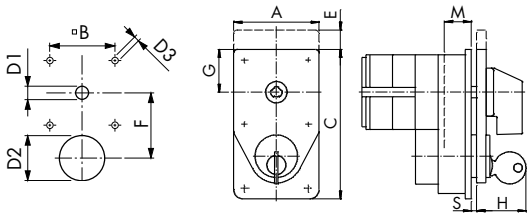
Switch-type	Number of stages	A	B	C	E	F	Conduit entries per 4x
CA10	2	64	50	68,8	36	26	M20
CA11, CA20	1 + 2	82	68	75,5	52	29	M20

Key-lock device with separate drive, 4-hole-mounting, IP40

With small cylinder lock (For switch sizes S0 + S1)

V760/..E

Spare key KN101
2006230 | S0C.V750.S2



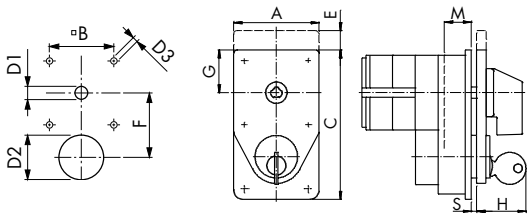
Ordering example:		
*CA10.A200*E*		
S0.V760/	*A*	*1* *E* *1*
	A	= square escutcheon plate
	B	= rectangular escutcheon plate
	1	= Key removable in locked and unlocked position
	2	= Key just removable in locked position
	E	Standard profile KN101
	1	= Number of locking program (refer to foot of page)

Size	A	B	C	E	F	G	H	D1	D2	D3	M	S
S0	48	36	82	12	40	24	31	8,5	22-23	5	9,5	1-4
S1	64	48	112	14,8	48	32	34,5	10	34	5	20,2	1-6

With commercial half-cylinder lock (For switch sizes S1 – S3)

V760/..B.
V760/..D.

Spare key
2012793 | S1B.V760.ZA2
(IKON 8825100 ZN1)
2013625 | S1C.V760.S2
(AS158274, compatible with Kaba 316201)



Ordering example:		
*CA10B.A290*E*		
S1.V760/	*A*	*1* *B* *1*
	A	= square escutcheon plate
	B	= rectangular escutcheon plate (Size S1)
	1	= Key removable in locked and unlocked position
	2	= Key just removable in locked position
	B	IKON-lock, profile 8825100
	D	Kaba 8 lock, cylinder 1007, profile 316201
	1	= Number of locking program (refer to table, foot of page)

Size	A	B	C	E	F	G	H	D1	D2	D3	M	S
S1	64	48	112	14,8	48	32	34,5	10	34	5	20,2	1-6
S2	88	68	146	-	70	44	35,5	12	34	5,4	15,5	1-5,5
S3	130	104	181,5	-	86	65	36,5	15	34	7	24	1-7

With commercial half-cylinder lock incl. a second switch (For switch sizes S1 – S3)

*V760/..D.**

Second switch is mounted on lock and is operated with key.
Application On request

Number of locking program	Switching Angle	Switch Positions to be lockable	Switch Positions not to be lockable	Size
1	30°–90°	one	the balance	S0–S3
2	20°	all	none	S0, S3
	30°–90°			S0–S3
3	30°–90°	the balance	one	S1–S3
4	30°–90°	one [1]	the balance	S0–S3

[1] Locking program 4 permits the locking of the device in any switch position. However, the actual locking becomes effective in a pre-determined switch position only.

Key-lock device with half-cylinder lock, total length 40,5 mm, IP42

Four hole panel mounting (For switch size S0)

For switches with two or more switch positions available.
Switch position both-sided of max. 2 x 135° possible.
Key is removable in 12 o'clock position.

V755/A1

With lock CES 851

NEW With profile KUN1

V755/Z1

Without lock

For switches with two switch positions available.
(For switching angle 30°)
Both switch positions are lockable.
Key is removable in 12 o'clock position.

V755/A2

With lock CES 851

NEW With Profile KUN1

Switch programs to be used:

ON/OFF switch			Double-throw switch		
WAA100, F264	instead	A200	WAA120, F072	instead	A220
WAA101, F264	instead	A201	WAA121, F072	instead	A221
WAA102, F264	instead	A202	WAA122, F072	instead	A222
WAA103, F264	instead	A203	WAA123, F072	instead	A223

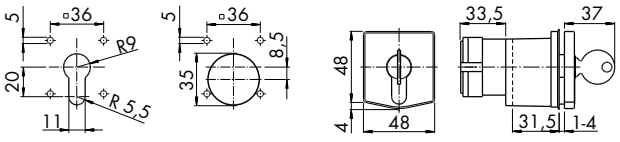
Other switch programs On request.

V755/Z2

Without lock

Switch programs should be used as for type V755/A2.

NEW **Replacement available only as a set (Lock / 3 Keys KUN1)**
2324855 | S0D.V755/CESNP/KUN1



Optional versions available

Notice:

For suitable drilled enclosures see chapter ***MOUNTING***.

Key-lock device with separate drive for half-cylinder lock, total length 40,5 mm, IP42

(For switch size S0)

V765/.H

With lock CES 851

NEW With Profile KUN1

V765/.Z

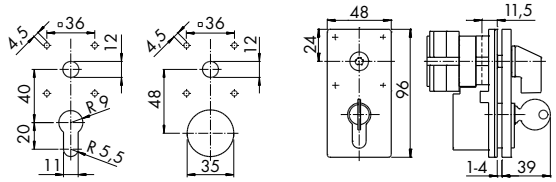
Without lock

V765/.../..2

With lock CES 851
With optional dust cap, IP43

NEW With profile KUN1

NEW **Replacement available only as a set (Lock / 3 KUN1)**
2324855 | S0D.V755/CESNP/KUN1



Types optional

Ordering example:				
*CA10 A200*E*				
S0 V765/	*A*	*H*	*1*	

A	= Key removable in both locked & unlocked position
B	= Key just removable in locked position
H	= with lock CES 851, profile KUN1
Z	= without lock
1	= Number of locking program (refer to table below)

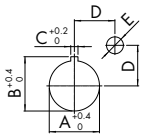
Number of locking program	Switching Angle	Switch Positions to be lockable	Switch Positions not to be lockable
1	30°–90°	one	the balance
2	20° 30°–90°	all	none
4	30°–90°	one [1]	the balance [1]

[1] Locking program 4 permits the locking of the device in any switch position. However, the actual locking becomes effective in a pre-determined switch position only.

Front built-in lights, IP40

Single hole mounting, lamp with 120 mm stranded wires (Size S0 and S1)

Square escutcheon plate assembled ex works

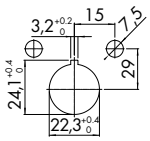


Bau-größe	A	B	C	D	E
S0	22,3	24,1	3,2	18	7,5
S1	22,3	24,1	3,2	24	7,5

Ordering example Size S0 (48 x 48)	
CH10.A215.FT2 F000	1-pole spring return latching mechanism of both sides, Single hole mounting
S0. F025 /A10/B -E1L	Escutcheon plate with recesses top right Escutcheon plate lettering 1–0–2 (see page 74)
S0C.T700.52	Lamp (refer to table below)

Ordering example Size S1 (64 x 64)	
CH10.A215.FH3 F000	1-pole spring return latching mechanism of both sides, Single hole mounting
S1. F025 /A10/B -E1L	Escutcheon plate with recesses top right Escutcheon plate lettering 1–0–2 (see page 74)
S0C.T700.52	Lamp (refer to table below)

Rectangular escutcheon plate assembled ex works



Ordering example Size S0 (48 x 59)	
CH10.A214.FT6 F000	1-pole spring return latching mechanism of both sides, Single hole mounting
S0. F025 /A10-E1L	Escutcheon plate without recess Escutcheon plate lettering 1–0–2 (see page 74)
S0.F991/A00/B2-P2B	Engraved rectangular Face plate with two recesses
S0C.T700.52	Lamp (refer to table below)

Notice:
Dimensions S1 on request

PN-enclosure □ 64 mm assembled ex works
Lamp with 120 mm stranded wires

Ordering example:	
CA10.A202.PN1	Complete switch, ON/OFF switch 3-pole, Plastic enclosure
S0.T999/425	Hole for lamp
S0C.T700.52	Lamp (refer to table below)

Notice:
Larger enclosures (only for red lamp 230 V) on request

Part number lights

Name	Art. no.	Colour	Voltage
S0C.T700.52	**2006156**	red-transparent	230 V
S0C.T700.53	**2006157**	red-transparent	24 V
S0C.T700.55	**2006158**	green-transparent	24 V
S0C.T700.57	**2006159**	yellow-transparent	230 V
S0C.T700.59	**2006160**	clear	230 V

Notice:
Other colours and voltage on request.

Trip indicator, IP40

Ordering data: The colour to appear after left or right operation.

M120/A
M120/B

With square escutcheon plate (64 x 64)
With rectangular escutcheon plate (48 x 59 and 64 x 78)

The trip indicator used on switches with spring return positions. It includes a coloured indicator to show the last spring return position that handle has been turned.
Two possibilities for flag indicator exist:
a) left red – right green
b) left green – right red

Control and indicator device, single lamp, BA9s socket, IP42 (Max. power 2 W, Switch size S0)

Ordering data: Front end assembly and function of the mechanical interlock, quantity and operation of the Auxiliary contacts and type of the contact system.

Q120/A
Q120/F

Front ring

Escutcheon plate

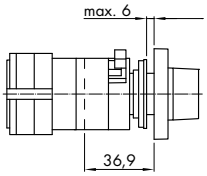
Turn to operate
Push-to-turn operation (e.g. control and alarm switch)

The control and indicator device offers a total switching angle of 360°, Single hole mounting 22/30 mm with lock nut and mounting/unmounting without using tools.

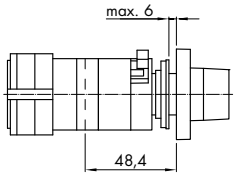
The following front end assemblies are available:
- Front ring
- Escutcheon plate 48 x 48 mm
- Escutcheon plate 64 x 64 mm

The push-to-turn version is available with 1 or 2 Auxiliary contacts and a mechanical interlock. Optionally select between a contact system with rigid contact bridge for excellent AC-15 make and break capabilities, also available with gold contacts for use in aggressive (harsh) environments. Or select an H-bridge design with "cross-wire" gold-plated contact system for low voltage and low current.

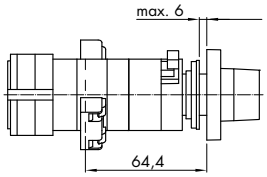
NOTICE:
Shipment without bulbs.

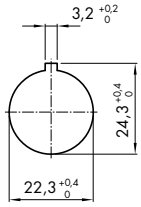


Q 120 Turn to operate



Q 120/F Push-to-turn operation (without auxiliary contacts)

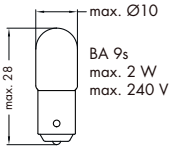




Q 120/F Push-to-turn operation (with auxiliary contacts)

LED-lamps with 4 chips and integrated bridge rectifier, BA 9s socket

Colour	Voltage	Order Code	Art. no.
○	24 V–28 V AC/DC	P.SN/LW024	**2234958**
●		P.SN/LR024	**2234956**
●		P.SN/LG024	**2234954**
○	110-120 V AC/DC	P.SN/LW110	**2235283**
●		P.SN/LR110	**2235282**
●		P.SN/LG110	**2235281**
○	220 V AC/DC	P.SN/LW220	**2234959**
●		P.SN/LR220	**2234957**
●		P.SN/LG220	**2234955**



Control and indicator device, with LED module and Light Conductor, IP40 (Switch size S00)

Ordering data: Operating voltage and type of version.

Q100B

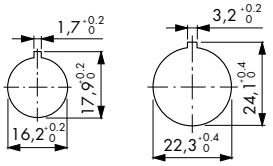
Single hole mounting

Mosaic mounting

The luminous source is a LED module with yellow light emitting diode mounted at the end of the switch. Light transmission via light conductor.

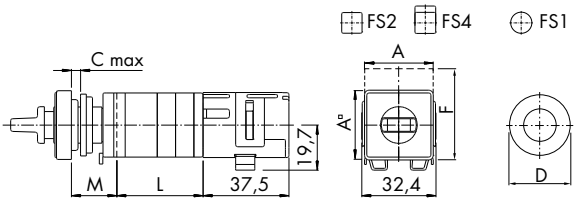
Voltage	Frequency	Power Consumption
24 V	AC 50–60 Hz, DC	0,2 W
48–60 V	AC 50–60 Hz	0,3 W
48–60 V	DC	1 W
110–120 V	AC 50–60 Hz	0,3 W
110–120 V	DC	1,4 W
220–240 V	AC 50–60 Hz	0,3 W
With test terminal		
24 V	DC	0,2 W
48–60 V	DC	1 W
110–125 V	DC	1,4 W

Single hole mounting (Type of version with interlock only for 22,3 mm possible)

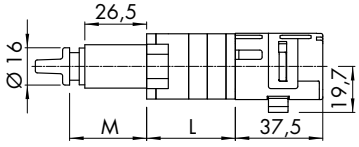


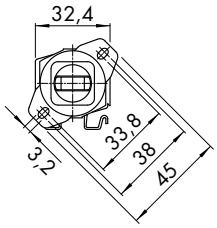
Available variations:
Without interlock (handle „turn to operate) – with interlock (handle „push-to-turn operation – push handle and turn, max switching angle 150 °, 8:00 – 1:00 o'clock.). The control and indicator device is available for single hole and mosaic mounting.

	A	C	D	F	Single hole mounting M	Single hole mounting Mounting Ø	Mosaic mounting M
Without interlock	30	5	29,5	39	17,7	16/22	29
With interlock	30	6,5	29,5	39	19,5	22	33



Mosaic mounting



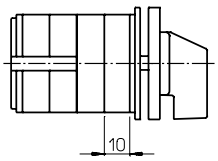


Dimension L on page 41

Stop and go devices

Ordering data: Operation of the stop and go device.

V160



The stop and go device prevents a fast switching through the centre OFF position, only possible at a 60° switching angle. The stop and go device only becomes activated in the centre switch position, either in both or just in single direction.
(Size S0)

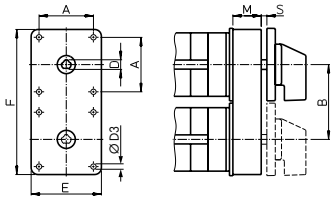
Interlock between switches

Ordering data: Specify interlocking modus

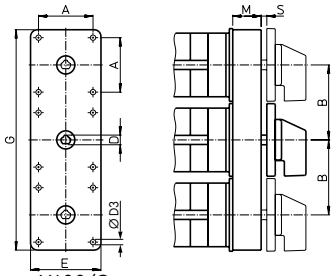
V600/B
V600/C

For 2 switch columns (Size S1 – S3)
For 3 switch columns (Size S1 – S3)

An interlock between 2 or 3 switch columns permits the operation of one switch only when the other switch or switches are located in a pre-determined switching position. For heavy duty service reinforced devices are available.



V600/B



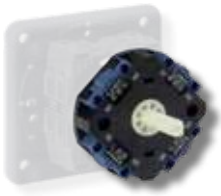
V600/C

Size	A	B	D	D3	E	F	G	M	S
S1	48	66	8,5	5	62	128	194	23,2	1,4–4,5
S2	68	93	11,2	6	92	183	276	30	1,5–7
S3	88	144	14	7	130	274	418	24	1,5–8,3

Auxiliary contacts

Ordering data: Quantity, operation of the auxiliary contacts and type of contact system.

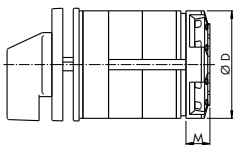
M510B



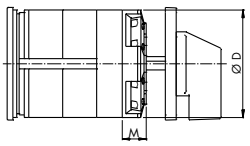
Cam controlled (Size S1 (except CA10B), S2, S3)

These particular type of auxiliary are controlled by a programmable cam. The max. number of Auxiliary contacts for switches of size S1 and S2 is 4 contacts and for switches of size S3 is 6 contacts.
Select between a contact system with a rigid bridge for excellent AC-15 make and break capabilities or an H-bridge design with „cross-wire" contacts (sizes S1 and S2) for low voltage low current. A second contact system with gold or gold plated contacts is available suitable for use in an aggressive (harsh) environment.
In cases where more than 4 - 6 Auxiliary contacts are required, (depending on the frame used) an auxiliary switch should be used as an alternative.

Front panel mounting



Base mounting



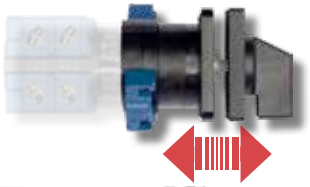
Front panel mounting (Mounting E)		
Size	M	D
S1	16	64
S2	18,7	84
S3	17	128

Base mounting (Mounting VE)		
Size	M	D
S1	11,5	64
S2	11,7	84
S3	8	128

Push-pull interlock

Ordering data: Description of the interlocking program, number and operation of the auxiliary contacts.

V110A
V115A
V130A
V135A



To pull lateral spring return (Size S0)
To pull lateral latching (Size S0)
To push lateral spring return (Size S0)
To push lateral latching (Size S0)

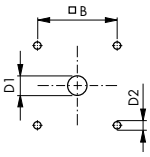
V110
V115
V120
V130
V135

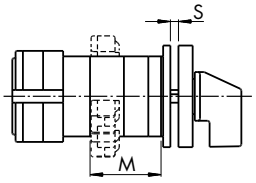
To pull lateral spring return (Size S1 – S3)
To pull lateral latching (Size S1)
To pull and to push lateral spring return (Size S1 – S3)
To push lateral spring return (Size S1 – S3)
To push lateral latching (Size S1)

The push-pull device is used to interlock the switch so that the handle can be rotated only when pushed or pulled. Therefore they can be self-locking or automatically be pulled back axially. The push-pull device can be programmed to allow the interlock to operate only between pre-determined switch positions. Auxiliary contacts can be operated by means of the axial movement of the handle. For switches size S0 the max. number of Auxiliary contacts is 2 contacts, for all other sizes 8 contacts. In addition switches size S0 can also be combined with a trip indicator.

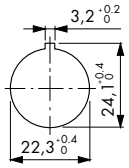
Notice:
For heavy duty service we recommend the alternative use of DK10 series.
Please contact our sales team for more information.

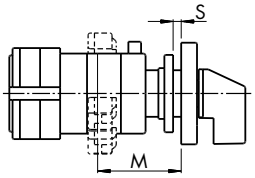
V110A – V135A, Four hole mounting **(Size S0)**





V110A – V135A, Single hole mounting **(Size S0)**

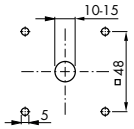


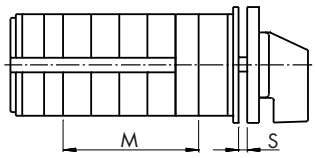


M = Additional length for Push-pull interlock and auxiliary contacts

	Mounting							
	E		EG		FT2		FH3	
	V110A V130A	V115A V135A	V110A V130A	V115A V135A	V110A V130A	V115A V135A	V110A V130A	V115A V135A
M (without auxiliary contact)	17,5	33,5	24,5	40,5	24	40	31	47
M (with auxiliary contact)	33,5	33,5	40,5	40,5	40	40	47	47
S	1–2	1–2	1–2	1–2	1–6	1–6	1–6	1–6
B	36	36	48	48				
D1	8–15	8–15	10–15	10–15				
D2	5	5	5	5				
Size of escutcheon plate	48 x 48	48 x 48	64 x 64	64 x 64	48 x 48	48x 48	64 x 64	64 x 64

V110, V115, V130, V135, Four hole mounting **(Size S1)**



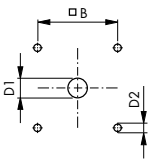


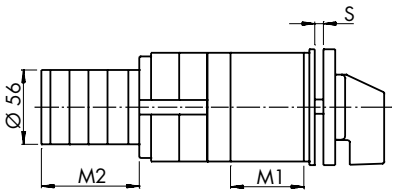
M = Additional length for Push-pull interlock and auxiliary contacts

Size	Number of auxiliary contacts				
	0–2	3–4	5–6	7–8	
	M	M	M	M	S
S1[1]	39,9	57,4	74,9	92,4	0–4
S1	29,5	47	64,5	82	0–4

[1] For Switch type CA..B, CH..B, CG..B

V120, Four hole mounting **(Size S1)**
V110, V120, V130, Four hole mounting **(Size S2 + S3)**





M1 = Additional length for Push-pull interlock
M2 = Additional length for auxiliary contacts

Size	Number of auxiliary contacts					
	0	1 + 2	3 + 4	5 + 6	7 + 8	
	M1	M1 + M2	M1 + M2	M1 + M2	M1 + M2	S
S1[1]	51,7	101,4	120,4	139,4	158,4	0–4,5
S2	69	127,6	146,6	165,6	184,6	0–5,5
S3	85	151,6	170,5	189,5	208,5	0–7

[1] Only V120

Size	B	D1	D2
S1	48	10–15	5
S2	68	13–17	6
S3	104	15,5–20	7

Push button interlock

Ordering data: Number and operation of the auxiliary contacts.

V400/A1

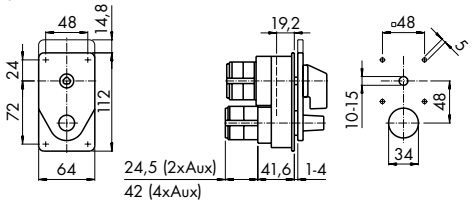
V400/B1

Square escutcheon plate
Switching only possible
if push button is pressed. (Size S1–S3)

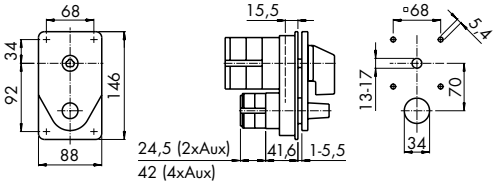
Rectangular escutcheon plate
Switching only possible
if push button is pressed. (Size S1)

Up to 4 auxiliary contacts can be operated by pressing the push button.
No Auxiliary contacts possible for Switch type CA40–CA63.

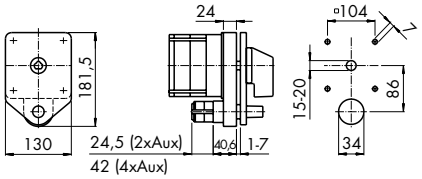
S1



S2



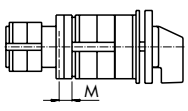
S3



Bayonet/Switch coupling

M270
M275

For switches of the same size (Size S1–S3)
For switches of different size (Size S0–S3)



M270

Size front switch	Coupled switch		
	S1	S2	S3
	M	M	M
S0	-	-	-
S1	8.8	-	-
S2	-	12.9	-
S3	-	-	32.9

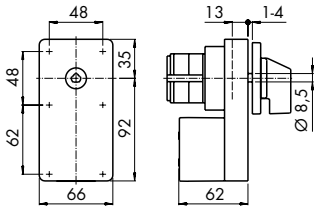
M275

Size front switch	Coupled switch			
	S00	S0	S1	S2
	M	M	M	M
S0	0.0	3.7	-	-
S1	1.3	0.8	-	-
S2	10.2	2.6	1.9	-
S3	12.7	10.4	10.4	11.4

Electromechanical interlock

Ordering data: Advise if the interlock is activated either by energizing or de-energizing of the electrical system. Coil voltage also required.

V140

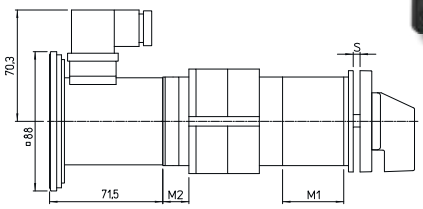


Integrated AC solenoid (Switch size S1)

The switch can be locked in any position by an electromechanical interlock. The interlock device is operated by energizing or de-energizing the electromechanical system. Adding Auxiliary contacts to the switch permits the device to be operated only in pre-determined positions.
Ambient temperature: 35 °C during 24 hours with peaks up to 40 °C
(Switch program CA40 on request)

Major features	
Frequency	50 Hz, 60 Hz, 50/60 Hz
Possible voltage	24 V–600 V
Pull-in power	55 VA/50 Hz or 70 VA/60 Hz
Holding power	11 W

V140



Size	M 1 + M 2	S
S1	56	0-4
S2	102	0-5,5
S3	111,1	0-7

M1 = Additional length for interlocks
M2 = Additional length for support plate

Solenoid with integrated rectifier (Switch size S1 (except CA10B ff.), S2, S3)

The switch can be locked in any position by an electromechanical interlock. The interlock device is operated by energizing or de-energizing the electromechanical system. Adding Auxiliary contacts to the switch permits the device to be operated only in pre-determined positions.
Ambient temperature: 35 °C during 24 hours with peaks up to 40 °C

Notice: Solenoid not UL approved

Major features	
Dual frequency	50/60 Hz and DC
Possible voltage	24 V, 48V, 60 V, 110 V, 125 V, 230 V and 240 V
Completely encapsulated coil, temperature at the surface of 80-85°C at an ambient temperature of 25°C	
Magnetic force	12 N, Hub 7 mm, on-time 100 %
Weight of solenoid ca.	1 kg
IP-code solenoid	IP65
Max. terminal cross-section	3 x 1,5 mm²
Max. current	1,5 A
Pull-in and holding power 20 W	

S1E.V140.K

Armature cover

For increased safety requirements.
Additional length: 10 mm

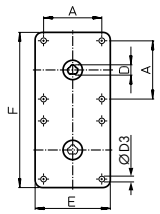
Tandem drive

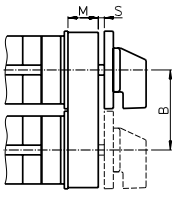
M300/B
M300/C

For 2 switch columns (Switch size S1–S3)
For 2 switch columns (Switch size S1–S3)

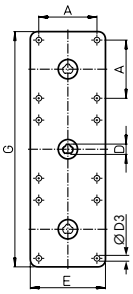
Two or three switch columns can be operated simultaneously. Special programs are available to reinforce the device for heavy duty applications.
(Switch programs for CA40–CA63 and A-switches On request)

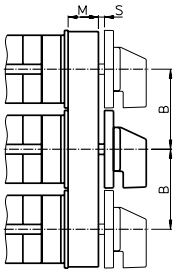
M300/B





M300/C





Size	A	B	D	E	F	G	M	S
S1	48	66	8,5	62	128	194	23,2	1,4–4,5
S2	68	93	11,2	92	183	276	30	1,5–7
S3	88	144	14	130	274	418	24	1,5–8,3

Electromechanical trip device (Shunt-trip)

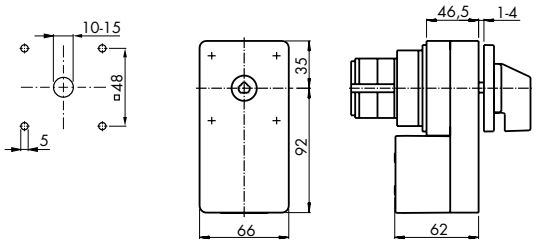
Ordering data:
Operating voltage for the magnetic system.

V360/A

Size S1

The device permits the switch to be turned to the trip position remotely. The coil is designed for short-time duty requiring an auxiliary contact in the switch which de-energises the coil in the trip position.

Controlling of the magnetic system:
24 V to 440 V/50 Hz, 60 Hz or DC



Lockout-relay

Ordering data: Operating voltage and frequency for the magnetic system

Suffix code *M* e. g. CA40M

V340/A

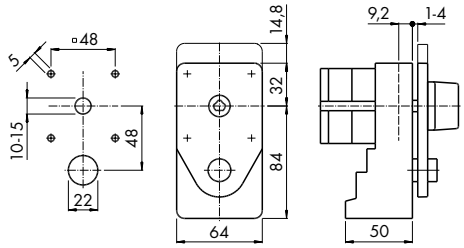
Provides manual release for enabling switching counterclockwise for test purposes.

(Switch programs on request, CA40–CA63 with additional stage)

The lockout-relay is typically used to remotely switch OFF or switch over electrical circuits.

The device contains a totally incapsulated coil and linear spring return mechanism which is compressed by manually turning the handle to the ON position (60°, clockwise to the OFF position). Once in the ON position, the handle is mechanically locked in place and cannot be manually turned back to OFF. Switching counterclockwise is only possible by impulse activating the unlocking device.

Gating Signal:
24 V to 440 V/50 Hz, 60 Hz or DC



Suffix code *L* e. g. CA40L

V340/B

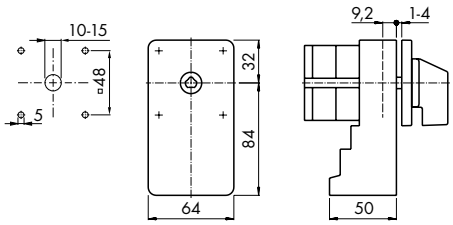
Without manual release

(Switch programs On request, CA40–CA63 with additional stage)

The lockout-relay is typically used to remotely switch OFF or switch over electrical circuits.

The device contains a totally incapsulated coil and linear spring return mechanism which is compressed by manually turning the handle to the ON position (60°, clockwise to the OFF position). Once in the ON position, the handle is mechanically locked in place and cannot be manually turned back to OFF. Switching counterclockwise is only possible by impulse activating the unlocking device.

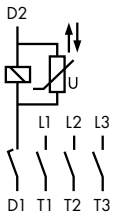
Gating Signal:
24 V to 440 V/50 Hz, 60 Hz or DC



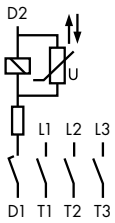
Disconnector acc. to EN 60947 with under-voltage release without trip free release

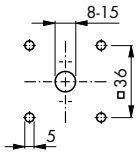
3 pole, Four hole panel mounting, IP40

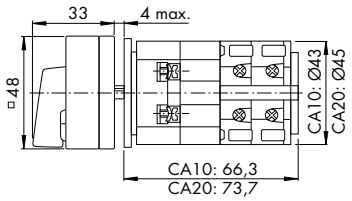
Coil voltage
230 V



400 V







The magnetic system includes a low-noise DC voltage coil with embedded diodes (reverse voltage 1000 V). Therefore it operates frequency-independent. Switches are available with coils for 24 V up to 600 V (IP20 to 240 V).

The magnetic system of the under-voltage release is shifting back the switch via a linear retracting into the OFF-position („0") in case of a voltage drop below 70% of the nominal voltage. The magnetic coil is triggered by a first make contact.
As the device does not contain a free-release, the main contacts close even in the Released-stage as long as the handle is manually held or blocked in the On-position („I").

Ambient temperature: 35 °C over 24 hours with peaks up to 40 °C

Continuous current (I_u/I_{th})	Switching power AC-23B (A) 3 x 400 V	Escutcheon plate	Order Code no.	Art. no.
Coil voltage 230 V, 50 Hz/60 Hz/DC				
20 A	7,5 kW	48 x 48	CA10X.T203/01.E	**70008232**
25 A	11 kW	48 x 48	CA20X.T203/01.E	**70009962**
Coil voltage 400 V, 50 Hz/60 Hz/DC [1]				
20 A	7,5 kW	48 x 48	CA10X.T203/D-A004.E	**70018636**
25 A	11 kW	48 x 48	CA20X.T203/D-A001.E	**70008633**

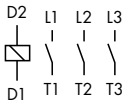
Continuous current (I_u/I_{th})	Switching power AC-23B (A) 3 x 400 V	Escutcheon plate	Order Code no.	Art. no.
Coil voltage 230 V, 50 Hz/60 Hz/DC				
20 A	7,5 kW	48 x 48	CA10X.T103/01.E	**70009286**
25 A	11 kW	48 x 48	CA20X.T103/01.E	**70029251**
Coil voltage 400 V, 50 Hz/60 Hz/DC [1]				
20 A	7,5 kW	48 x 48	CA10X.T103/D-A001.E	**70036258**
25 A	11 kW	48 x 48	CA20X.T103/D-A004.E	**70036503**

[1] Auxiliary terminal for series resistor not finger proof

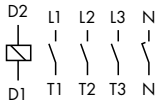
Main-/Emergency switches with under-voltage release acc. to EN 60204, with trip free release

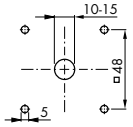
3 or 4 pole, Four hole panel mounting, IP40

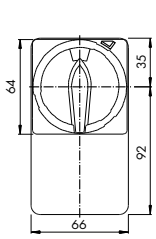
3pole

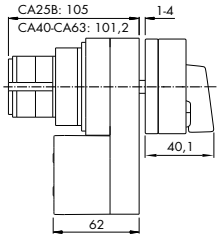


4 pole









The magnetic system of the under-voltage release is shifting the switch into the release position („+") in case of a voltage drop below 70% of the nominal voltage. This is as well the delivery status.

By turning the grip back from the released-position „+" into the On-position („I") the release spring is loaded and remains loaded when switching between On- („I") and OFF-position („0").
As the device includes a free-release acc. To EN 60947-1, the main contactors remain open in the released-stage even if the handle is manually held or blocked in the On position („I")

Ambient temperature: 35 °C over 24 hours with peaks up to 40 °C

Continuous current (I_u/I_{th})	Switching power AC-23B (A) 3 x 400 V	Escutcheon plate	Order Code no. Art. no.	
			3 pole	4 pole
Coil voltage 230 V, 50 Hz				
32 A	15 kW	64 x 64	CA25B.T203/92.E **70037163**	CA25B.T204/92.E **70009617**
40 A	18,5 kW	64 x 64	CA40.T203/82.E **70024754**	CA40.T204/82.E **70049167**
50 A	22 kW	64 x 64	CA50.T203/82.E **70008752**	CA50.T204/82.E **70049170**
63 A	30 kW	64 x 64	CA63.T203/82.E **70008753**	CA63.T204/82.E **70000192**
Coil voltage 400 V, 50 Hz				
32 A	15 kW	64 x 64	CA25B.T203/D-A026.E **70008634**	CA25B.T204/D-A011.E **70022036**
40 A	18,5 kW	64 x 64	CA40.T203/D-A002.E **70046361**	CA40.T204/D-A001.E **70022037**
50 A	22 kW	64 x 64	CA50.T203/D-A001.E **70046362**	CA50.T204/D-A001.E **70022038**
63 A	30 kW	64 x 64	CA63.T203/D-A001.E **70040780**	CA63.T204/D-A003.E **70022039**

Continuous current (I_u/I_{th})	Switching power AC-23B (A) 3 x 400 V	Escutcheon plate	Order Code no. Art. no.	
			3 pole	4 pole
Coil voltage 230 V, 50 Hz				
32 A	15 kW	64 x 64	CA25B.T103/92.E **70010923**	CA25B.T104/92.E **70039973**
40 A	18,5 kW	64 x 64	CA40.T103/82.E **70046363**	CA40.T104/82.E **70049166**
50 A	22 kW	64 x 64	CA50.T103/82.E **70025986**	CA50.T104/82.E **70049169**
63 A	30 kW	64 x 64	CA63.T103/82.E **70026915**	CA63.T104/82.E **70049171**
Coil voltage 400 V, 50 Hz				
32 A	15 kW	64 x 64	CA25B.T103/D-A004.E **70046364**	CA25B.T104/D-A002.E **70022035**
40 A	18,5 kW	64 x 64	CA40.T103/D-A002.E **70045285**	CA40.T104/D-A001.E **70049303**
50 A	22 kW	64 x 64	CA50.T103/D-A001.E **70046366**	CA50.T104/D-A001.E **70049301**
63 A	30 kW	64 x 64	CA63.T103/D-A001.E **70045287**	CA63.T104/D-A001.E **70039114**

60 Hz respectively other coil voltages Upon request (With DC a series resistor is required).

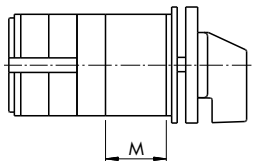
Spring return latching mechanism

Ordering data: Specify spring return from either left or right side for M470.

M470/A
M470

Spring return from both ends (Size S0–S2)
Spring from one end (Size S0 + S1)

The spring return up to 30° switching angle is operated through the latching mechanism. In case of many contacts being lifted simultaneously or if the total receding angle is more than 30°, the switch is equipped with a spring return latching mechanism. The spring return from both ends can be designed latching positions to one side are feasible. (S1.M470 Mounting EF IP66/67)



Size	M (M470/A)	M (M470)	Shaft hole
S0	33,3	33,3	8–15
S0 (Switches of next larger size e.g. CH10B)	40,3	29,2	18,5
S1	33,3	22,2	18,5
S2	75		13–17

Uni-directional interlock

Ordering data:
Specify interlock position

M400

(Size S0–S2 with 360° rotation)

The uni-directional interlock prevents the switch from being operated counterclockwise. The interlock can be designed either in all switch positions or in one particular position.

Slip and ratchet clutch

M200

Slip clutch (Size S0 + S1)

The slip clutch allows the link of two camshafts together, one master and one slave camshaft. The here slave camshaft is activated not until the master camshaft reaches a defined turning angle. This clutch i.e. enables the de-energised downshift of switches for pole-switchable motors. Not available for DH-Switches. The additional length is one cam.

Motor drive

R300

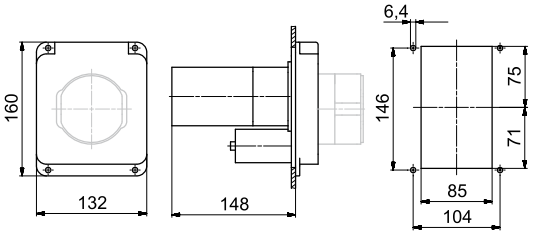
(Size S1 – S3)

The motor drive consists of an AC motor R300 with capacitor, transmission and Geneva drive. With this, switches can be operated step by step. The motor can be delivered for operating voltages of 230V, 50Hz or 220V, 60 Hz. Please see separate Datasheet for Drivers.

Ambient temperature: 35 °C over 24 hours with peaks up to 40 °C

Horizontal motor axle

Notice: Motor Drive not UL certified



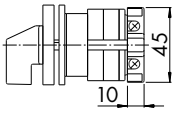
Terminal cover

M160

The protective cover prevents accidental contact with energised terminals. (C80, C125, C315, C316, L400)

Protective earth and neutral terminals

2032804 | S0D.H040/E
2032805 | S0D.H040/N
2032806 | S0D.H040/NE



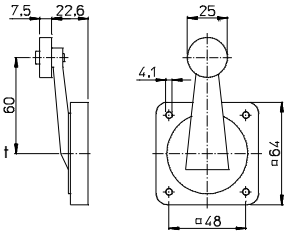
PE terminal (Size S0)
Neutral terminal (Size S0)
PE and neutral terminal (Size S0)

2171337 | S00.H040.S
2032802 | S0D.H040.S

PE terminal (Size S00)
PE terminal (Size S0)

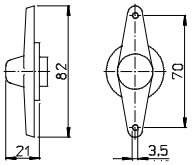
Special drives

G800/B



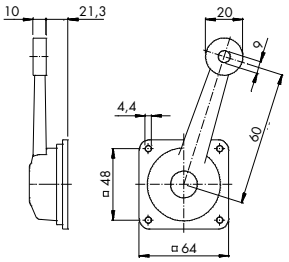
Heavy duty drive unit with actuator and roller (Size S1)

G800/C



Double action lever (Size S1)

G900/B



Rope operation available for spring return, maintained or stepping operation. (Size S1)

Standards & Approvals [10]

	USA	USA / Canada			Canada	Europe		United Kingdom	Belarus, Kazakhstan	People's Republic of China	Europe, Arabia, Africa
	UL	cULus LISTED 77B7	cULus LISTED 24D8	cURus	CSA	IEC60947	EN60947	UKCA	EAC	GB/T14048.3	Lloyd's Register
Type (alphanumeric sorting)	**UL [1]**	**CULUS [2] 77B7**	**CULUS [3] 24D8**	**CURUS [4]**	**CSA [5]**	**IEC [6]**	**EN [7]**	**UKCA**	**EAC**	**CCC [8]**	**LR EMEA**
Control Switches											
C125	-	A	-	-	A	C	C	C	A	A	-
C315	-	-	-	A	A	C	C	C	A	A	-
C80	-	A	-	-	A	C	C	C	A	A	-
CA10B	-	A	-	-	A	C	C	C	A	A	A
CA10X	-	A	-	-	A	C	C	C	A	-	-
CA11B	-	A	-	-	A	C	C	C	A	-	-
CA20B	-	A	-	-	A	C	C	C	A	A	-
CA20X	-	A	-	-	A	C	C	C	A	-	-
CA25B	-	A	-	-	A	C	C	C	A	A	-
CA4	-	A	-	-	A	C	C	C	A	-	-
CA4-1	-	A	-	-	A	C	C	C	A	-	-
CA40, CA50, CA63	-	A	-	-	-	C	C	C	A	-	-
CAD11B	-	-	A	-	A	C	C	C	A	A	-
CG4	-	A	-	-	A	C	C	C	A	A	-
CG4-1	-	A	-	-	A	C	C	C	A	A	-
CG8B	-	A	-	-	A	C	C	C	A	A	-
CGD4-1	-	-	A	-	-	C	C	C	A	-	-
CH10B	-	A	-	-	A	C	C	C	A	A	A
CH11B	-	-	A	-	A	C	C	C	A	-	-
CH16B	-	A	-	-	A	C	C	C	A	A	A
CH6	-	A	-	-	A	C	C	C	A	-	-
DH10, DH10B	-	A	-	-	-	C	C	C	A	-	-
DH11, DH11B	-	-	A	-	-	C	C	C	A	-	-
Switches for special use											
A11	-	A	-	-	A	C	C	C	A	-	-
A11C	-	A	-	-	A	C	C	C	A	-	-
AD11	-	-	-	A	A	C	C	C	A	-	-
A25, A25C	-	A	-	-	-	C	C	C	A	-	-
CHR10/16/B	-	-	-	A	A	C	C	C	A	A	-
CHR11	-	-	-	A	A	C	C	C	A	-	-
DHR10/11/B	-	-	-	A	-	C	C	C	A	-	-
DK10	-	A	-	-	-	C	C	C	A	-	-
DK11	-	-	A	-	-	C	C	C	A	-	-
G20	-	-	-	A	-	C	C	C	A	A	-
G20S	-	-	-	A	-	C	C	C	A	A	-
L1000,L1200, L1600	-	-	-	A	A	C	C	C	A	-	-
L2000	-	-	-	-	A	C	C	C	A	-	-
L350, L351, L630	-	-	-	A	A	C	C	C	A	-	-
L400	-	A	-	-	A	C	C	C	A	-	-
L600, L800	-	-	-	A	A	C	C	C	A	-	-
Emergency-stop/OFF push buttons and switch disconnector [9]											
C316	-	-	-	A	A	C	C	C	A	A	-
KA40/B	-	A	-	-	A	C	C	C	A	A	A
KA63/B	-	A	-	-	A	C	C	C	A	A	A
KG10/A/B	-	A	-	-	A	C	C	C	A	A	-
KG100, KG100C	-	A	-	-	A	C	C	C	A	A	-
KG125	-	A	-	-	A	C	C	C	A	A	-
KG126, KG127	-	-	-	A	A	C	C	C	A	A	-
KG160	-	A	-	-	A	C	C	C	A	A	-
KG161, KG162	-	-	-	A	A	C	C	C	A	A	-
KG20/A/B	-	A	-	-	A	C	C	C	A	A	A
KG210	-	A	-	-	A	C	C	C	A	-	-
KG211, KG212	-	-	-	A	A	C	C	C	A	-	-
KG250	-	A	-	-	A	C	C	C	A	A	-
KG251, KG252	-	-	-	A	A	C	C	C	A	A	-
KG315	-	A	-	-	A	C	C	C	A	A	-
KG316, KG317	-	-	-	A	A	C	C	C	A	A	-
KG32/A/B	-	A	-	-	A	C	C	C	A	A	A
KG41/B	-	A	-	-	A	C	C	C	A	A	A
KG64/B	-	A	-	-	A	C	C	C	A	A	A
KG80	-	A	-	-	A	C	C	C	A	A	A
KG80C	-	A	-	-	A	C	C	C	A	A	-

A = approved C = in compliance with the corresponding regulation

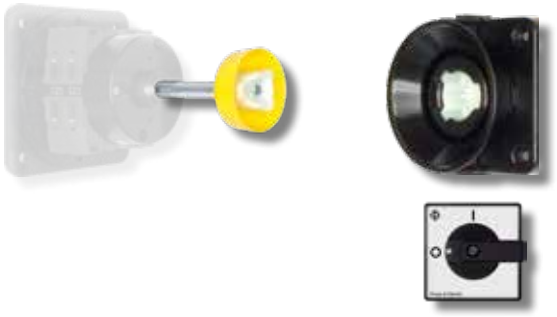
[1] **Underwriters Laboratorie** Approved under the 'Listing-Program'. File No. E365898, Category Control Number NMSJ. | [2] **Canadian National and United States Standards - Listed** Approved under the 'Listing-Program'. File No. E35541, Category Control Number NLRV and NLRV7. | [3] **Canadian National and United States Standards - Listed** Approved under the 'Listing-Program'. File No. E60262, Category Control Number NRNT and NRNT7. | [4] **Canadian National and United States Standards - Recognised** Approved under the 'Component Program' (UL-Recognised Industrial Component). File No. E35541, Category Control Number NLRV2 and NLRV8 resp. File No. E60262, Category Control Number NRNT2 and NRNT8. | [5] **Canadian Standards Association** File No. 13002, Class No. 321105, 321103 resp. 465204 | [6] **IEC 60947 - International Electrical Commission (IEC)** Recommendation IEC does not operate an approval scheme. | [7] **EN 60947** Industrial switches are not required to be labelled but must conform to the applicable requirements. By referring to the specific specification on the product the manufacturer implies that these requirements have been met. | [8] If you need an approval, you have to tell this with your order additional. | [9] Switch types of the KG series as well as C316 are approved under UL508 and CSA-22.2 No. 14-05 as „disconnect switches for use in motor circuits" and only to be used for branch circuit. Switches in enclosure are not approved. | [10] for AC applications, DC applications on request.
More approvals please see homepage: www.krausnaimer.com ➡ Certificates & Guide

Standard door clutch for enclosures

Door clutch with four hole mounting shaft fixation with set screw

Ordering data:
Total installation depth of switch incl. door clutch.

M280E/..-EF



With shaft extension, IP66/67 front

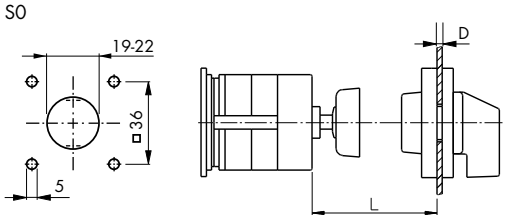
Door clutches of size S1 can be combined with switches of size S0.

	Type
M280E/ A 2	*1 S-EF*

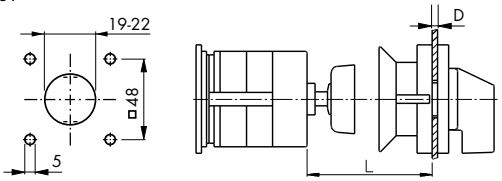
A	=	without interlocking
B	=	with interlocking, standard possible at 9 h or every 90°
		= Dimension L refer scheme below

		1	2	3	4	
Size	D	L	L	L	L	Z
S0	4,0	36–55	56–75	76–95	96–116	100
S1	4,0	32–57	58–77	78–97	98–118	100
S2	5,5	60–90	90–120	120–150	150–180	110
S3	7,0	60–95	95–130	130–165	165–200	110

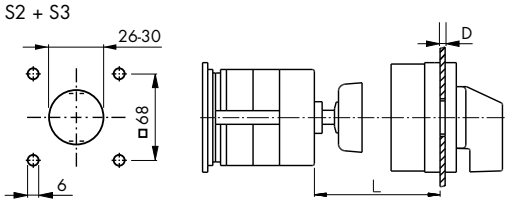
S0

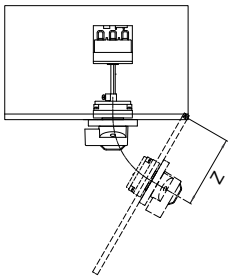


S1



S2 + S3

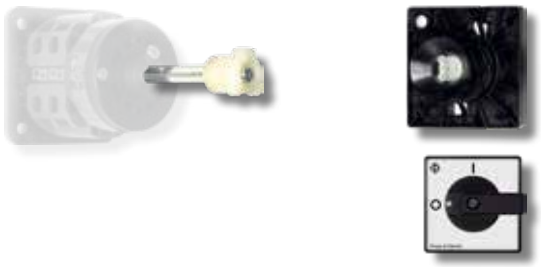




Door clutch with single hole mounting 22 mm, IP66, without padlock device (Switch size S0+S1) shaft fixation with set screw

Ordering data:
Total installation depth of switch incl. door clutch.

M295/.A

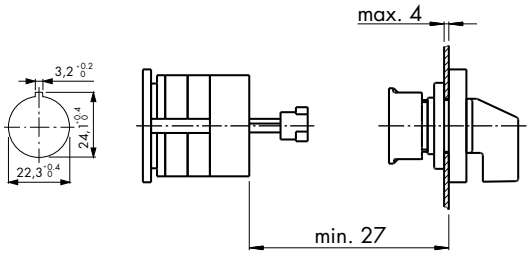


In addition, a shaft extension is required.

	Type
S0.M295/ A *A*	*1 /11*

		Escutcheon plate	Escutcheon plate frame	handle
A	=	Alu	black	black
B	=	Alu	black	red
C	=	black	black	black
D	=	black	black	red
E	=	yellow	black	red

1	=	without interlocking
2	=	with interlocking, unlocked at 9 h
3	=	with interlocking, unlocked at 12 h



Door clutch for switch cabinets with padlock device

Main switch application upon request

Four hole mounting with padlock device, IP66

Ordering data:
Total installation depth of switch incl. door clutch.

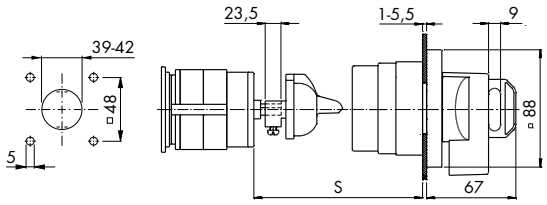
M700/.

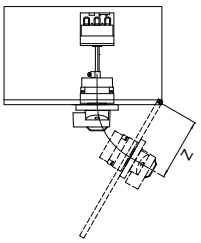
Handle lockable with padlocks (Switch size S0–S3)

Door lock in ON-position („I") and with applied padlock device as well in OFF-position („0"). The door of the switch cabinet can under normal conditions only be opened in OFF-position („0") of the switch. With the attached special tool the locking mechanism can be released in the OFF-position („0"). A maximum of 4 padlocks with a 5mm diameter or 3 padlocks with a 8mm diameter can be applied. The door clutch can level an a +/- 5mm offset between door clutch and shaft.

Additional shaft extension is required.

Colouring		Escutcheon plate	handle	Lock bar
M700/	*A*			
	A =	brushed Alu	black	red
	B =	brushed Alu	red	yellow
	C =	brushed black	black	red
	D =	brushed black	red	yellow
	E =	yellow	red	yellow





Size	Shaft	S min	Z
S0	S0.L100/...A	64,5	100
S1	S1.M004D	67	100
S2	S2.M004D	74,5	100
S3	S3.M004D	78	100

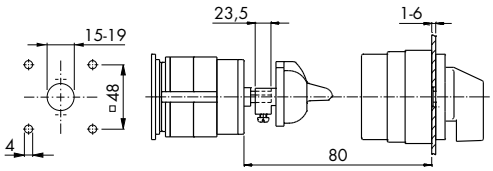
Door clutch for switch cabinets with standard handle

Four hole mounting with standard escutcheon plate and handle, IP66

M701

Door clutch unlocked in OFF-position („0") (Switch size S0–S2)

In addition, a shaft extension is required.



Unlock insert for door clutch M700 + M701

2014491 | S1D.M700.29

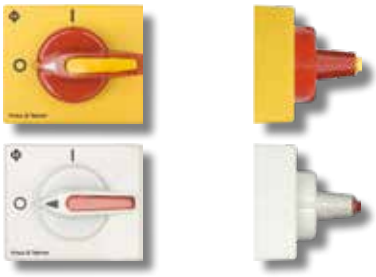
To open the door in ON-position („I"). After door clutch has been removed, effective precautions must be taken to prevent unauthorised persons from opening the switch cabinet.

Padlock devices

Main switch application upon request

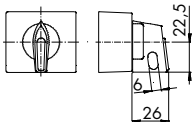
Base mounting 45 mm standard knock-out

V840B



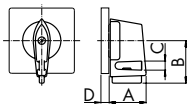
Padlock is an integrated part of the switch handle and can hold 1 padlock (Mounting VE2 and VE21)

Locking bar accessible from the front.
Available colours (handle/cover disc) black/grey, grey/grey, red/grey or red/yellow. Bail diameter max. 2 x 4,5–6 mm



Sealable

V840A



Padlock is an integrated part of the switch handle and can hold 2 padlocks and sealing

Handle available in colours black, red and electro- grey.
Cover discs available in colours yellow and brushed alu.
Upon request, the device can be programmed to lock in several switch positions (every 60° or 90°).

Baugröße	B	C	R	D in mm [1, 2]	D in mm [3]
S0 (V840A/A, .../B, .../E)	31,5	5	32,9	3,5–4,5	
S0 (V840A/C, .../D, .../F)	31,5	5	32,9	3,0–4,0	
S1	40	7	41,6	4,0–6,0	–

[1] Front panel mounting + Cast enclosure | [2] Plastic enclosures + Mounting VE2 and VE21 | [3] Single hole mounting

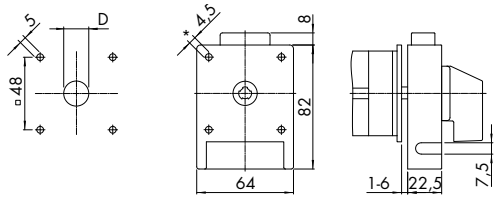
Push button top

V850/A

For 2 padlocks (Switch size S0 + S1)
For 3 padlocks (Switch size S1 + S2)
For 6 padlocks (Switch size S2 + S3)

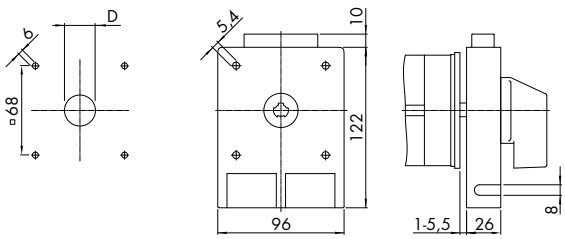
Upon request, the device can be programmed to lock in several switch positions (every 30°).

S1



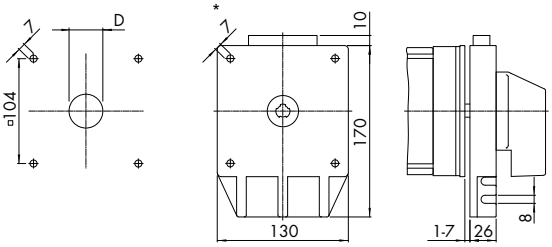
Maximum number of padlocks	
Bail-∅	Number of padlocks
3–5,5	2

S2



Maximum number of padlocks	
Bail-∅	Number of padlocks
4–7,5	3

S3



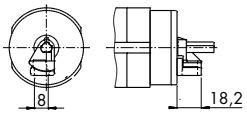
Maximum number of padlocks	
Bail-∅	Number of padlocks
4–7,5	6

For 2 padlocks	D
S1.V850/.1	10-15
S1.V850/.11	8-15
S1.V850/.12	10-15
S1.V850/.13	19-22
For 3 padlocks	
S2.V850/.1	26-30
S2.V850/.11	10-15
S2.V850/.12	26-30
S2.V850/.13	26-30
For 6 padlocks	
S3.V850/.1	15,5-20
S3.V850/.11	26-30
S3.V850/.12	15,5-20
S3.V850/.13	22-25

Switch-side

K3B.V840VE | **2150320**

To mount a padlock when the switch cabinet is open (Size S2)

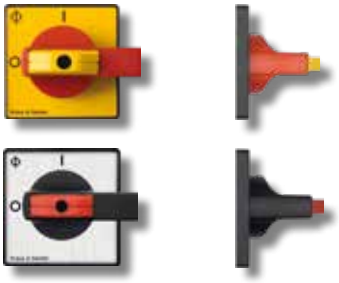


Padlock devices

Main switch application Upon request

T-handle

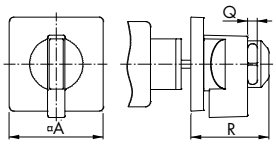
V845



For 4 padlocks (Locking bar accessible from the front.)

Handle is available in black or red, escutcheon plate in yellow and brushed Alu.
Upon request, the device can be programmed to lock in several switch positions.

Size	A	R	Q
S0	48	51	7,2
S1	64	58	8,1
S2	88	73	9
S3	130	86,5	9



Maximum number of padlocks		
Escutcheon plate	Bail-∅	Number of padlocks
48 x 48	7	2
	3	4
64 x 64	7,5	3
	4	4
88 x 88	4–8	2–4
130 x 130	4–8,5	2–4

F-handle

V840D

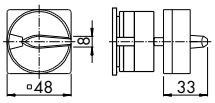
For 2 padlocks Size S0 (48 x 48)
For 3 padlocks Size S2 (88 x 88)

V840G
V840F/F

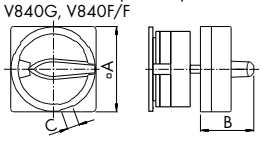
For 3 padlocks Size S1 (64 x 64)
For 4 padlocks Size S1 (64 x 64)

Padlock device with integrated F-handle.
Handles are available in black, red and electro-grey, cover discs in black, yellow and electro-grey.

V840D Size S0 (48 x 48)



V840D Size S2 (88 x 88)
V840G, V840F/F



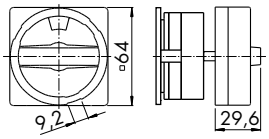
	A	B	C
V840D	88	49,3	10
V840G	64	40,1	9,2
V840F/F	64	40,1	9,2

B-handle

V840G/B
V840F/B

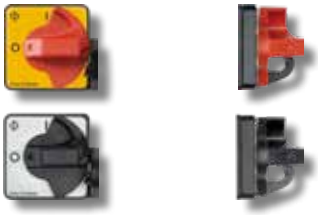
For 3 padlocks Size S1 (64 x 64)
For 4 padlocks Size S1 (64 x 64)

Padlock device with integrated B-handle.
Handles are available in black, red and electro-grey, cover discs in black, yellow and electro-grey.



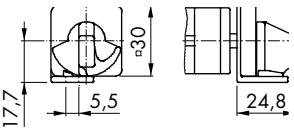
Smallest padlock device

V840K



For 1 padlock Size S00 (Bail diameter 3,5–5 mm)

2-hole panel and single hole mounting 22 mm (16 mm not possible).
Handles are available in red and black, cover discs in yellow and electro-grey.



Terminal lugs

M900

With screw terminal (C80 + C125)

Makes it easier to connect hard-to-reach terminals.
Generally all X-, L-switches and switches of series C315 and C316 will be delivered with terminal lugs.

M930

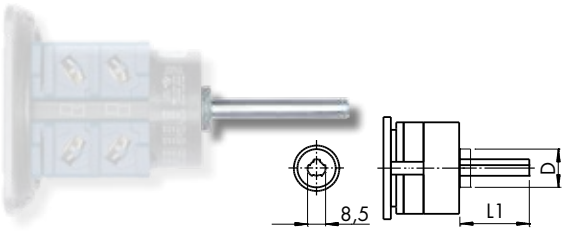
To connect with a push-on contact
(CA4, CH6/B, CH10/B, CH16/B, DH10/B, DH12/B)

On each plug connection can be plugged one push-on contact with 6.3 mm or two with 2.8 mm. Switch type CA4 only can be plugged one 2.8 mm push-on contact.

Shaft extensions with asymmetric profile

Ordering data: Length of shaft or enclosure or switch cabinet.

L100



Shaft not adjustable (Size S0 + S1) Escutcheon plate/handle size S1

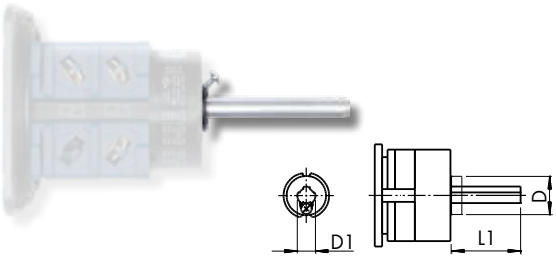
Size	E/EF	KN1/KD1	KD2	VE
S0	L1–2,3	L1–5,1	–	L1
S1	L1–2,5	–	L1–2,5	L1

Size	D
S0	13,8
S1	18,5

Size	L1	L1	L1	L1	L1	L1	L1	L1	L1
S0	19	24	28	32	37	42	47	52	57
S1	19,8	23,8	27,8	32,8	37,8	42,8	47,8	52,8	57,8

Size	L1	L1	L1	L1	L1	L1	L1	L1	L1
S0	62	67	72	77	82	87	92	97	102
S1	62,8	67,8	72,8	77,8	82,8	87,8	92,8	97,8	102,8

M004D



Unlimited adjustable, with set screw (Size S0 – S3)

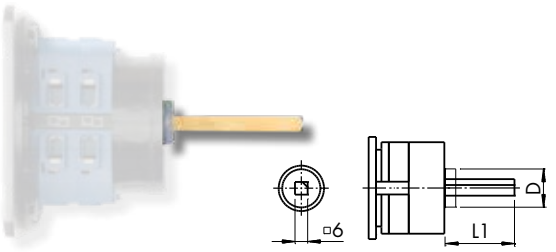
Adjustable shaft can be set to the desired length in a pre-mounted switch with VE Mounting plate.

Size	D	D1	L1	L1	L1	L1
S0	13,8	6	21–40	41–60	61–80	81–100
S1	18,5	8,5	21–40	41–60	61–80	81–100
S2	24,6	11,2	41–70	71–100	101–130	131–160
S3	35,1	14	41–75	76–110	111–145	146–180

Shaft extensions with square profile

Ordering data: Length of shaft or enclosure or switch cabinet.

L100A

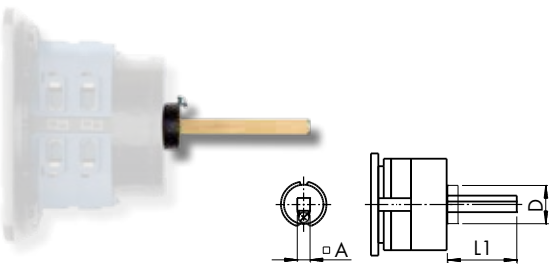


Shaft not adjustable (Size S0 + S1) Escutcheon plate/handle size S1

Size	D
S0	13,8
S1	18,5

Size	L1
S0, S1	19–27 (in 4 mm increments)
S0, S1	32–117 (in 5 mm increments)

M004E



Unlimited adjustable, with set screw (Size S1 – S3)

Adjustable shaft can be set to the desired length in a pre-mounted switch with VE Mounting plate.

Size	A	D	L1	L1	L1	L1
S1	6	18,5	21–40	41–60	61–80	81–100
S2	8	24,6	41–70	71–100	101–130	131–160
S3	10	35,1	41–75	76–110	111–145	146–180

Protective cover Ø 74 mm (incl. holding frame), IP42

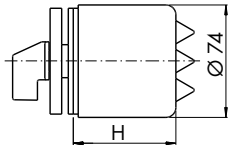
2232094 | S0.M999/D-760S
2234144 | S0.M999/D-780S

black
Two or Four hole panel as well as single hole mounting

H	CH10, CH11, CH16	CA10, CA11, CAD11, DH10, DH11	CA20, CA25	KG10A	Name	Art. no.
	E, EF, E22, EG, EGF, FT1, FT2, FT3, FT4, FT6 Number of stages					
60	1–2	1–4	1–3	1–3	S0.M999/D-760S	**2232094**
80	3–6	5–6	4	4	S0.M999/D-780S	**2234144**

2232095 | S1.M999/D-760S
2232796 | S1.M999/D-780S

H	CH10B, CH11B, CH16B	CA10B, CA11B, CAD11B, DH10B, DH11B	CA20B, CA25B	KG10B	Name	Art. no.
	E, EF, E22 Number of stages					
60	1–2	1–4	1–3	1–3	S1.M999/D-760S	**2232095**
80	3–4	5–6	4	4	S1.M999/D-780S	**2232796**



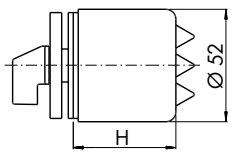
Ordering example:
CA10.A202.E
S0.M999/D-760S

Protective cover Ø 52 mm (incl. holding frame), IP30

2232109 | S0.M999/D-546T
2232804 | S0.M999/D-562T
2232526 | S0.M999/D-576T

transparent
Two or Four hole panel as well as single hole mounting

H	CA10, CA11, CAD11	Name	Art. no.
	E, EF, E22, EG, EGF, FT1, FT2, FT3, FT4, FT6 Number of stages		
46	1–2	S0.M999/D-546T	**2232109**
62	3–4	S0.M999/D-562T	**2232804**
76	5	S0.M999/D-576T	**2232526**



Ordering example:
CA10.A202.E
S0.M999/D-546T

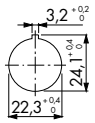
Accessory single hole mounting

**Nut key for mounting screw,
Single hole mounting 16, 22 and 30 mm**

2005361 | S00.T170.09

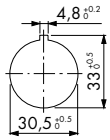
**Adapter ring for single hole mounting
16 mm up to Ø 22 mm**

2005361 | S00.T160.01



**Adaptor ring for single hole mounting
22 mm to Ø 30 mm**

2010455 | S0E.T160.01



Mounting screw for 5 – 8 mm switch panel, 22 mm

2010475 | S0E.T170.09

Metal ring to strengthen the key recess, 22 mm

2014926 | S1D.V844.05

Mounting screws

Usually included in package content

Self-tapping screws 4,7x13

2015269 | S1E.T100.N 4-pack
2015266 | S1E.T100.10 1 piece

For greater wall thickness

Self-tapping screws 4,7x19

2015268 | S1E.T100.11 1 piece

Self-tapping screws 4,7x30

2217118 | S1E.T100.13 1 piece

Blank cover

For four hole mounting (drill hole pattern 36 x 36). Order both items.

2025705 | S0.F990/A1B.PEL

Face plate ungraved incl. frame

2005791 | S0C.F000.36

Cover for face plate
(available in black)

For single hole mounting 22 mm

5000735 | P.SN/B

Grey, RAL 7035

5000723 | P.SB/B

Black, RAL 9005

Cover for handle fixing screw

2005822 | S0C.G000.11

Black for handles S0C.G251 and S0C.G521

2005823 | S0C.G000.12

Red for handles S0C.G252 and S0C.G522

2005827 | S0C.G000.31

Black for handles S1B.G251 and S1B.G521

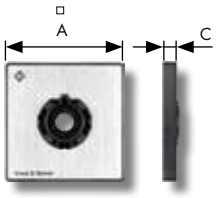
2005828 | S0C.G000.32

Red for handles S1B.G252 and S1B.G522

Escutcheon plate

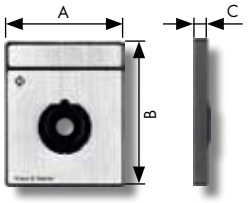
The escutcheon plate consists of an escutcheon plate frame and Face plate (brushed Alu).

square escutcheon plate



Size	Mounting	A	C
S00	E	30	5,5
	FS2	30	7,2
S0	E	48	6,7
	FT2	48	7,4
S1	E	64	7,4
	FH3	64	7,4
S2	E	88	8,5
	EL2	88	5,8
S3	E	130	11,5

rectangular escutcheon plate



Size	Mounting	A	B	C
S00	E	30	39	5,5
	FS2	30	39	7,2
S0	E	48	59	6,7
	FT2	48	59	7,4
S1	E	64	78,5	7,4
	FH3	64	78,5	7,4
S2	E	88	124	8,5
	EL2	88	124	5,8
S3	E	130	180	11,5

Size	4-hole mounting				Single hole mounting
	square escutcheon plate (incl. Face plate)	square face plate	square escutcheon plate frame	rectangular escutcheon plate frame	square face plate
	(F... = Selection of escutcheon plate lettering on these two pages)				(F... = Selection of escutcheon plate lettering on these two pages)
S00	S00.F.../A1B-PE	S00.F.../A10-P1	S00.F000.51	S00.F000.61	S00.F.../A10-E1
S0	S0.F.../A1B-PEL	S0.F.../A10-P1L	S0E.F000.51	S0E.F000.61	S0.F.../A10-E1L
S1	S1.F.../A1B-PEL	S1.F.../A10-P1L	S1E.F000.51	S1E.F000.61	S1.F.../A10-E1L
S2	S2.F.../A1B-PEL	S2.F.../A10-P1L	S2E.F000.51	-	-
S3	S3.F.../A1B-PEL	S3.F.../A10-P1L	S3E.F000.51	-	-

Standard escutcheon plate letterings

Individual engravings possible. Contact us and we can send you a customisation form.

Switching angle 30°

F022

F023

F026

F153

F169

F024

F025

F034

F039

F258

F259

F273

F053

F161

F306

F307

F001

F052

F229

F355

F301

F302

F002

F055

F305

F054

F003

F138

F308

F004

F014

F017

F135

F303

F304

F348

F005

F044

F136

F006

F010

F015

F007

F011

F008

F012

F016

F009

F013

F748

Standardised escutcheon plate letterings

Individual engravings possible. Contact us and we can send you a customisation form.

Switching angle 45°

F747

F215

F216

F738

F793

F107

F109

F217

F289

F330

F375

F376

F383

F778

F781

F105

F108

F112

F293

F741

F791

F795

F110

F106

F294

F785

F788

F111

F322

Switching angle 60°

F070

F088

F197

F379

F380

F470

F754

F072

F234

F264

F288

F291

F313

F382

F721

F758

F075

F076

F356

F357

F071

F073

F080

F081

F085

F241

F249

F260

F274

F312

F316

F324

F331

F354

F364

F373

F381

F385

F469

F732

F735

F077

F102

F309

F361

F362

F363

F365

F366

F078

F074

F082

F256

F079

F083

F084

F242

F283

F737

Switching angle 90°

F056

F063

F068

F134

F251

F456

F058

F069

F182

F208

F254

F360

F458

F700

F743

F057

F061

F209

F437

F445

F719

F059

F060

F062

F202

F206

F265

F266

F718

F756

Diverse

F119

F122

F125

F225

F341

F120

F124

F121

F990

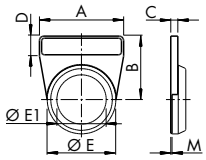
F991

Rectangular add-on face plates

When used for switches with single hole mounting, the IP is reduced to IP42.

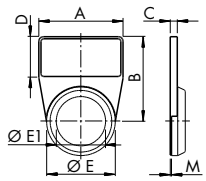
Face plates can be engraved or printed front or rear side. Two different height are available. The escutcheon plate frame is black, the face plate brushed alu. For switches of size S0-S3 yellow face plates are available.

For switches with single hole mounting 16, 22 and 30 mm and front ring



Size	Inscription				Frame without face plate	
	front side		rear side			
	Name	Art. no.	Name	Art. no.	Name	Art. no.
S00	S00.F991/A0B/C.PRD	**2030968**	S00.F991/A0B.PRD	**2030962**	S00.F000.41	**2004240**
S0	S0.F991/A0B/C.PRD	**2026025**	S0.F991/A0B.PRD	**2026017**	S0C.F000.41	**2005793**

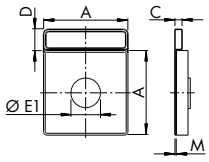
Size	A	B	C	D	E	E1	M
S00	30	25,5	4	10,5	29,5	16	0,7
S0	48	36	4	12	39	22	0,7



Size	Inscription				Frame without face plate	
	front side		rear side			
	Name	Art. no.	Name	Art. no.	Name	Art. no.
S00	S00.F991/A0B/C.PRB	**2030966**	S00.F991/A0B.PRB	**2030960**	S00.F000.21	**2004234**
S0	S0.F991/A0B/C.PRB	**2026022**	S0.F991/A0B.PRB	**2026014**	S0C.F000.21	**2005785**

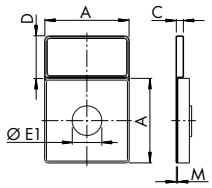
Size	A	B	C	D	E	E1	M
S00	30	35	4	20	29,5	16	0,7
S0	48	48	4	24	39	22	0,7

For switches with four hole and single hole mounting 16, 22 and 30 mm and square escutcheon plate



Size	Inscription				Frame without face plate	
	front side		rear side			
	Name	Art. no.	Name	Art. no.	Name	Art. no.
S00	S00.F991/A0B/C.PRC	**2030967**	S00.F991/A0B.PRC	**2030961**	S00.F000.31	**2004237**
S0	S0.F991/A0B/C.PRC	**2026023**	S0.F991/A0B.PRC	**2026015**	S0C.F000.31	**2005788**
S1	S1.F991/A0B/C.PRC	**2039905**	S1.F991/A0B.PRC	**2039902**	S1D.F000.31	**2014012**

Size	A	C	D	E1	M
S00	30	4	10,5	16	0,7
S0	48	4	12	22	0,7
S1	64	5	15	22/39,7	0,8



Size	Inscription				Frame without face plate	
	front side		rear side			
	Name	Art. no.	Name	Art. no.	Name	Art. no.
S00	S00.F991/A0B/C.PRA	**2030965**	S00.F991/A0B.PRA	**2030959**	S00.F000.11	**2004231**
S0	S0.F991/A0B/C.PRA	**2026020**	S0.F991/A0B.PRA	**2026013**	S0C.F000.11	**2005782**
S1	S1.F991/A0B/C.PRA	**2039904**	S1.F991/A0B.PRA	**2039901**	S1D.F000.11	**2014010**
S2	S2.F991/A0B/C.PRA	**2049855**	S2.F991/A0B.PRA	**2049854**	S2D.F000.11	**2016263**
S3	-	**-**	S3.F991/A0B.PRA	**2052542**	S3D.F000.11	**2017549**

Size	A	C	D	E1	M
S00	30	4	20	16	0,7
S0	48	4	24	22	0,7
S1	64	5	28	22/39,7	0,8
S2	88	6	36	39,7	1
S3	130	7	50	39,7	1,2

Face plate brushed alu

Size	Inscription			
	front side		rear side	
	Name	Art. no.	Name	Art. no.
S00	S00.F991/A00/C.P2B	**2004820**	S00.F991/A00.P2B	**2004817**
S0	S0.F991/A00/C.P2B	**2003430**	S0.F991/A00.P2B	**2003421**
S1	S1.F991/A00/C.P2B	**2011832**	S1.F991/A00.P2B	**2011821**

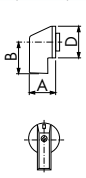
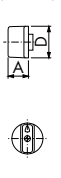
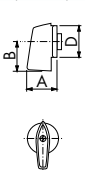
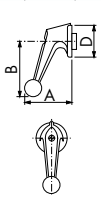
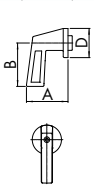
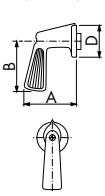
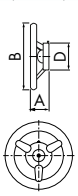
S00	S00.F991/A00/C.P2A	**2004819**	S00.F991/A00.P2A	**2004816**
S0	S0.F991/A00/C.P2A	**2003429**	S0.F991/A00.P2A	**2003420**
S1	S1.F991/A00/C.P2A	**2011831**	S1.F991/A00.P2A	**2011820**
S2	S2.F991/A00/C.P2A	**2015528**	S2.F991/A00.P2A	**2015527**
S3	-	**-**	S3.F991/A00.P2A	**2016911**

Handle

							
Type of handle	**I-handle**	**B-handle**	**F-handle**	**K-handle**	**P-handle**	**P-handle**	**Handwheel**

Ordering example: S0C.G521 (black B-handle size S0)

Switch size	Art. no.	Art. no. for colour													
		black	red	black	red	black	red	black	red	black	red	black	red	black	red
S00	*S00 ...*	*G251*	*G252*	-	-	*G221*	*G222*	-	-	-	-	-	-	-	-
S0	*S0C ...*	*G251*	*G252*	*G521*	*G522*	*G221*	*G222*	-	-	*G211*	*G212*	-	-	-	-
S1	*S1B ...*	*G251*	*G252*	*G521*	*G522*	*G221*	*G222*	*G411*	*G412*	-	-	*G211*	*G212*	-	-
S2	*S2B ...*	*G251*	*G252*	-	-	*G221*	*G222*	*G411*	*G412*	-	-	*G211*	*G212*	-	-
S3	*S3B ...*	*G251*	*G252*	-	-	-	-	*G411*	*G412*	-	-	*G211*	*G212*	*G971*	-

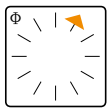
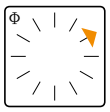
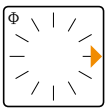
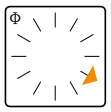
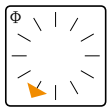
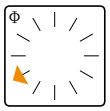
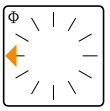
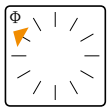
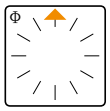
Size	A	B	D	A	B	D	A	B	D	A	B	D	A	B	D	A	B	D	A	B	D
S00	16,5	14,8	16	-	-	-	16	18	16	-	-	-	-	-	-	-	-	-	-	-	-
S0	22	23,8	27,6	18	-	27,6	26	26	27,6	-	-	-	39,2	41	27,6	-	-	-	-	-	-
S1	27	31,8	36	23	-	36	33,8	34	36	54	64	36	-	-	-	58	57,5	36	-	-	-
S2	35	43,8	50	-	-	-	44,7	45	50	55	83	50	-	-	-	70	68	50	-	-	-
S3	49	64,8	77,5	-	-	-	-	-	-	75	106	77,6	-	-	-	81	85	77,6	55	200	79,5
																					

Change of switch program by axial OFFset

Face plate with customised lettering must be specified.

Standard

for example with M999/470

					
M999/461	*M999/462*	*M999/463*	*M999/464*	*M999/465*	*M999/466*
					
M999/467	*M999/468*	*M999/469*	*M999/470*	*M999/471*	*M999/472*

Complete items

2-hole mounting (CG4)
4-hole mounting (CH10)

Single hole mounting, IP66
16 / 22 mm (CG4), 22 mm (CH10)

ON/OFF switch, 60° switching angle 0–1

	I u / I th	Poles	Stages	Switch program see page	Name	Art. no.	Name	Art. no.
	10 A	1	1	21	CG4.A200.E	**70011635**	CG4.A200.FS2	**70000019**
	20 A			21	CH10.A200.E	**70012755**	CH10.A200.FT2	**70011736**
	10 A	2	1	21	CG4.A201.E	**70010535**	CG4.A201.FS2	**70008399**
	20 A			21	CH10.A201.E	**70012756**	CH10.A201.FT2	**70008304**
	10 A	3	2	21	CG4.A202.E	**70018642**	CG4.A202.FS2	**70008365**
	20 A			21	CH10.A202.E	**70012757**	CH10.A202.FT2	**70011685**
	10 A	4	2	21	CG4.A203.E	**70018643**	CG4.A203.FS2	**70000056**
	20 A			21	CH10.A203.E	**70012758**	CH10.A203.FT2	**70011735**
	10 A	6	3	21	CG4.A342.E	**70012413**	CG4.A342.FS2	**70012415**
	20 A			21	CH10.A342.E	**70015129**	CH10.A342.FT2	**70015135**

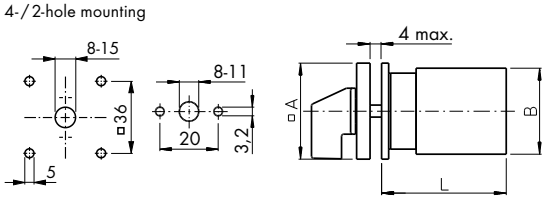
ON/OFF switch, 90° switching angle 0–1

	I u / I th	Poles	Stages	Switch program see page	Name	Art. no.	Name	Art. no.
	10 A	1	1	21	CG4.A290.E	**70008670**	CG4.A290.FS2	**70008344**
	20 A			21	CH10.A290.E	**70014975**	CH10.A290.FT2	**70014981**
	10 A	2	1	21	CG4.A291.E	**70009723**	CG4.A291.FS2	**70011795**
	20 A			21	CH10.A291.E	**70014993**	CH10.A291.FT2	**70014999**
	10 A	3	2	21	CG4.A292.E	**70012329**	CG4.A292.FS2	**70012332**
	20 A			21	CH10.A292.E	**70015016**	CH10.A292.FT2	**70015022**

Double-throw switch without OFF-position („0"), 60° switching angle 1–2

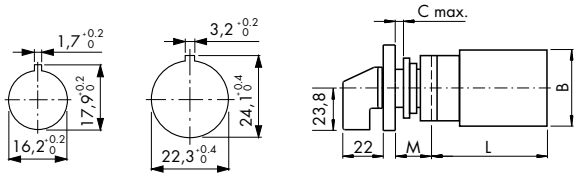
	I u / I th	Poles	Stages	Switch program see page	Name	Art. no.	Name	Art. no.
	10 A	1	1	21	CG4.A220.E	**70009961**	CG4.A220.FS2	**70000127**
	20 A			21	CH10.A220.E	**70014350**	CH10.A220.FT2	**70010252**
	10 A	2	2	21	CG4.A221.E	**70008496**	CG4.A221.FS2	**70008404**
	20 A			21	CH10.A221.E	**70011398**	CH10.A221.FT2	**70010569**
	10 A	3	3	21	CG4.A222.E	**70012057**	CG4.A222.FS2	**70009369**
	20 A			21	CH10.A222.E	**70012763**	CH10.A222.FT2	**70008922**
	10 A	4	4	21	CG4.A223.E	**70008497**	CG4.A223.FS2	**70009143**
	20 A			21	CH10.A223.E	**70010836**	CH10.A223.FT2	**70010962**
	10 A	5	5	21	CG4.A369.E	**70009158**	CG4.A369.FS2	**70008315**
	20 A			21	CH10.A369.E	**70015187**	CH10.A369.FT2	**70010110**
	10 A	6	6	21	CG4.A370.E	**70012456**	CG4.A370.FS2	**70009182**
	20 A			21	CH10.A370.E	**70015201**	CH10.A370.FT2	**70011407**

4-/2-hole mounting

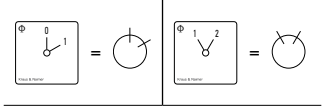


Type	A	B	C	M	L (Stages) 1	2	3	4	5	6
CG4	30	28	5	12,5	38,5	50,5	62,5	74,5	86,5	98,5
CH10	48	46	6	18,2	43,5	57,5	71,5	85,5	99,5	113,5

Single hole mounting, IP66
CG4 CG4/CH10



Position to remove the key



Complete items

2-hole mounting (CG4)
4-hole mounting (CH10)

Single hole mounting, IP66
16 / 22 mm (CG4), 22 mm (CH10)

Double-throw switch with OFF-position („0"), 60° switching angle — 1–0–2

I u / I th	Poles	Stages	Switch program see page	Name	Art. no.	Name	Art. no.
10 A	1	1	23	CG4.A210.E	**70009487**	CG4.A210.FS2	**70000046**
20 A			23	CH10.A210.E	**70012759**	CH10.A210.FT2	**70009145**
10 A	2	2	23	CG4.A211.E	**70010329**	CG4.A211.FS2	**70008514**
20 A			23	CH10.A211.E	**70012760**	CH10.A211.FT2	**70011070**
10 A	3	3	23	CG4.A212.E	**70008539**	CG4.A212.FS2	**70008269**
20 A			23	CH10.A212.E	**70012761**	CH10.A212.FT2	**70008886**
10 A	4	4	23	CG4.A213.E	**70011960**	CG4.A213.FS2	**70011421**
20 A			23	CH10.A213.E	**70020666**	CH10.A213.FT2	**70011833**

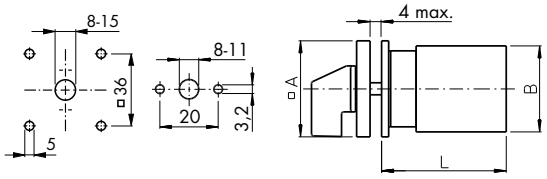
Double-throw switch with OFF-position („0"), 60° switching angle — HAND–0–AUTO

I u / I th	Poles	Stages	Switch program see page	Name	Art. no.	Name	Art. no.
10 A	1	1	23	CG4.A210.E.F085	**70009075**	CG4.A210.FS2.F085	**70000112**
20 A			23	CH10.A210.E.F085	**70009111**	CH10.A210.FT2.F085	**70009121**
10 A	2	2	23	CG4.A211.E.F085	**70008405**	CG4.A211.FS2.F085	**70008530**
20 A			23	CH10.A211.E.F085	**70009112**	CH10.A211.FT2.F085	**70009122**
10 A	3	3	23	CG4.A212.E.F085	**70009076**	CG4.A212.FS2.F085	**70029900**
20 A			23	CH10.A212.E.F085	**70009113**	CH10.A212.FT2.F085	**70012461**

Double-throw switch with OFF-position („0"), 30° switching angle (spring return to centre) — 1–0–2

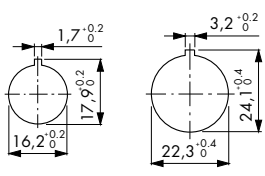
I u / I th	Poles	Stages	Switch program see page	Name	Art. no.	Name	Art. no.
10 A	1	1	23	CG4.A214.E	**70009136**	CG4.A214.FS2	**70009378**
20 A			23	CH10.A214.E	**70012762**	CH10.A214.FT2	**70009520**
10 A	2	2	23	CG4.A215.E	**70011985**	CG4.A215.FS2	**70011411**
20 A			23	CH10.A215.E	**70014574**	CH10.A215.FT2	**70011856**
10 A	3	3	23	CG4.A216.E	**70009287**	CG4.A216.FS2	**70009368**
20 A			23	CH10.A216.E	**70014593**	CH10.A216.FT2	**70011465**

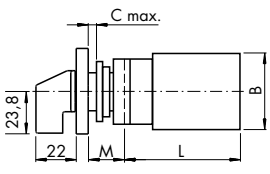
4-/2-hole mounting

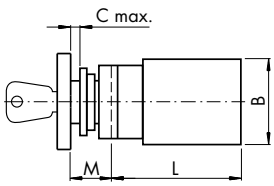


Type	A	B	C	M	L (Stages) 1	2	3	4
CG4	30	28	5	12,5	38,5	50,5	62,5	74,5
CH10	48	46	6	18,2	43,5	57,5	71,5	85,5

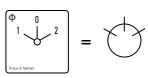
Single hole mounting, IP66
CG4 CG4/CH10







Position to remove the key



Complete items

2-hole mounting (CG4)
4-hole mounting (CH10)

Single hole mounting, IP66
16 / 22 mm (CG4), 22 mm (CH10)

3-step switch without OFF-position („0“) 1–2–3

	I u / I th	Poles	Stages	Switch program see page	Name	Art. no.	Name	Art. no.
	10 A	1	2	25	CG4.A230.E	**70008964**	CG4.A230.FS2	**70008965**
	20 A			25	CH10.A230.E	**70012764**	CH10.A230.FT2	**70008927**
	10 A	2	3	25	CG4.A250.E	**70008338**	CG4.A250.FS2	**70010509**
	20 A			25	CH10.A250.E	**70012769**	CH10.A250.FT2	**70008716**
	10 A	3	5	25	CG4.A270.E	**70012256**	CG4.A270.FS2	**70008908**
	20 A			25	CH10.A270.E	**70014932**	CH10.A270.FT2	**70014939**

4-step switch without OFF-position („0“) 1–2–3–4

	I u / I th	Poles	Stages	Switch program see page	Name	Art. no.	Name	Art. no.
	10 A	1	2	25	CG4.A231.E	**70008225**	CG4.A231.FS2	**70008682**
	20 A			25	CH10.A231.E	**70012765**	CH10.A231.FT2	**70010483**
	10 A	2	4	25	CG4.A251.E	**70009489**	CG4.A251.FS2	**70012215**
	20 A			25	CH10.A251.E	**70012770**	CH10.A251.FT2	**70011650**
	10 A	3	6	25	CG4.A271.E	**70012267**	CG4.A271.FS2	**70012272**
	20 A			25	CH10.A271.E	**70014945**	CH10.A271.FT2	**70014951**

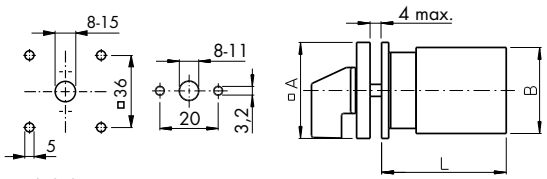
5-step switch without OFF-position („0“) 1–2–3–4–5

	I u / I th	Poles	Stages	Switch program see page	Name	Art. no.	Name	Art. no.
	10 A	1	3	26	CG4.A232.E	**70012121**	CG4.A232.FS2	**70009486**
	20 A			26	CH10.A232.E	**70014768**	CH10.A232.FT2	**70012766**
	10 A	2	5	26	CG4.A252.E	**70012227**	CG4.A252.FS2	**70012232**
	20 A			26	CH10.A252.E	**70014896**	CH10.A252.FT2	**70014901**

6-step switch without OFF-position („0“) 1–2–3–4–5–6

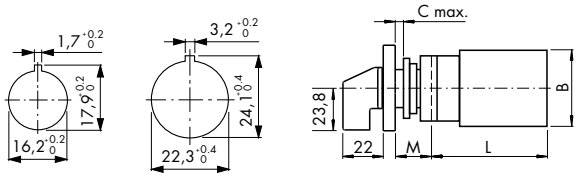
	I u / I th	Poles	Stages	Switch program see page	Name	Art. no.	Name	Art. no.
	10 A	1	3	26	CG4.A233.E	**70009665**	CG4.A233.FS2	**70009283**
	20 A			26	CH10.A233.E	**70010895**	CH10.A233.FT2	**70011357**

4-/2-hole mounting

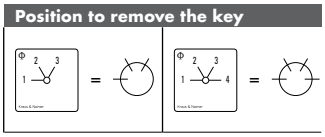


Type	A	B	C	M	L (Stages) 2	3	4	5	6	8
CG4	30	28	5	12,5	50,5	62,5	74,5	86,5	98,5	122,5
CH10	48	46	6	18,2	57,5	71,5	85,5	99,5	113,5	141,5

Single hole mounting, IP66
CG4 CG4/CH10



Position to remove the key



Complete items

2-hole mounting (CG4)
4-hole mounting (CH10)

Single hole mounting, IP66
16/22 mm (CG4), 22 mm (CH10)

2-step switch with OFF-position („0“) 0–1–2

	I u / I th	Poles	Stages	Switch program see page	Name	Art. no.	Name	Art. no.
	10 A	1	1	27	CG4.A240.E	**70008579**	CG4.A240.FS2	**70008196**
	20 A			27	CH10.A240.E	**70011929**	CH10.A240.FT2	**70011930**
	10 A	2	2	27	CG4.A260.E	**70010398**	CG4.A260.FS2	**70012240**
	20 A			27	CH10.A260.E	**70014907**	CH10.A260.FT2	**70014912**

3-step switch with OFF-position („0“) 0–1–2–3

	I u / I th	Poles	Stages	Switch program see page	Name	Art. no.	Name	Art. no.
	10 A	1	2	27	CG4.A241.E	**70011847**	CG4.A241.FS2	**70008366**
	20 A			27	CH10.A241.E	**70012767**	CH10.A241.FT2	**70012768**
	10 A	2	3	27	CG4.A261.E	**70012246**	CG4.A261.FS2	**70008513**
	20 A			27	CH10.A261.E	**70010524**	CH10.A261.FT2	**70014922**

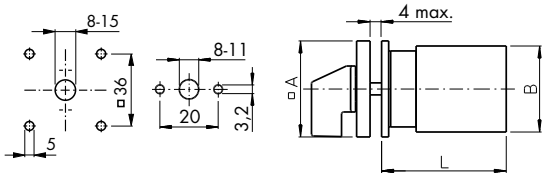
4-step switch with OFF-position („0“) 0–1–2–3–4

	I u / I th	Poles	Stages	Switch program see page	Name	Art. no.	Name	Art. no.
	10 A	1	2	28	CG4.A242.E	**70009544**	CG4.A242.FS2	**70009545**
	20 A			28	CH10.A242.E	**70020670**	CH10.A242.FT2	**70014831**

Group switch–3 groups Switching sequence: 0, A, A+B, A+B+C

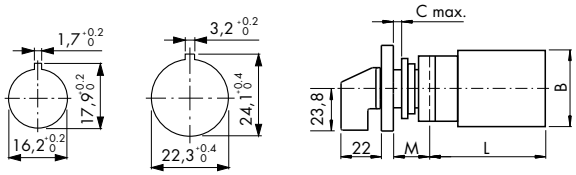
	I u / I th	Poles	Stages	Switch program see page	Name	Art. no.	Name	Art. no.
	10 A	1	2	24	CG4.A311.E	**70009664**	CG4.A311.FS2	**70012372**
	20 A			24	CH10.A311.E	**70009267**	CH10.A311.FT2	**70015069**

4-/2-hole mounting



Type	A	B	C	M	L (Stages) 1	2	3	4	5
CG4	30	28	5	12,5	38,5	50,5	62,5	74,5	86,5
CH10	48	46	6	18,2	43,5	57,5	71,5	85,5	99,5

Single hole mounting, IP66
CG4 CG4/CH10



Complete items

2-hole mounting (CG4)
4-hole mounting (CH10)

Single hole mounting IP66
16 / 22 mm (CG4), 22 mm (CH10)

Voltmeter switch without OFF-position („0") (3 line-to-line voltage) L1-L2-L2-L3-L3-L1

	I u / I th	Poles	Stages	Switch program see page	Name	Art. no.	Name	Art. no.
	–	–	2	29	CG4.A023.E.F793	**70049300**	CG4.A023.FS2.F793	**70011445**
	–	–		29	CH10.A023.E.F793	**70017499**	CH10.A023.FT2.F793	**70008885**

Voltmeter switch without OFF-position („0") (3 line-to-line voltage, 3 phases against N) L3-L1-L2-L3-L1-L2-L1-N-L2-N-L3-N

	I u / I th	Poles	Stages	Switch program see page	Name	Art. no.	Name	Art. no.
	–	–	3	29	CG4.A025.E.F795	**70037781**	CG4.A025.FS2.F795	**70011651**
	–	–		29	CH10.A025.E.F795	**70017500**	CH10.A025.FT2.F795	**70009960**

Voltmeter switch with OFF-position („0") (3 line-to-line voltage) 0-L1-L2-L2-L3-L3-L1

	I u / I th	Poles	Stages	Switch program see page	Name	Art. no.	Name	Art. no.
	–	–	2	29	CG4.A004.E.F778	**70024831**	CG4.A004.FS2.F778	**70019574**
	–	–		29	CH10.A004.E.F778	**70009107**	CH10.A004.FT2.F778	**70009117**

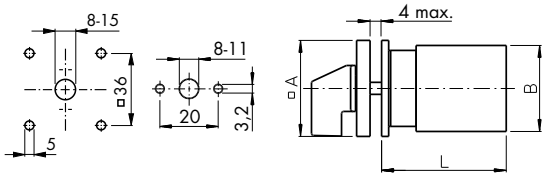
Voltmeter switch with OFF-position („0") (3 line-to-line voltage, 3 phases against N) L3-L1-L2-L3-L1-L2-0-L1-N-L2-N-L3-N

	I u / I th	Poles	Stages	Switch program see page	Name	Art. no.	Name	Art. no.
	–	–	3	29	CG4.A007.E.F785	**70009072**	CG4.A007.FS2.F785	**70009080**
	–	–		29	CH10.A007.E.F785	**70009108**	CH10.A007.FT2.F785	**70009118**

Ammeter switch (3 transformers with OFF-position, 360° rotation) 0-1-2-3

	I u / I th	Poles	Stages	Switch program see page	Name	Art. no.	Name	Art. no.
	10 A	1	3	30	CG4.A048.E	**70025263**	CG4.A048.FS2	**70011730**
	20 A			30	CH10.A048.E	**70014235**	CH10.A048.FT2	**70020503**

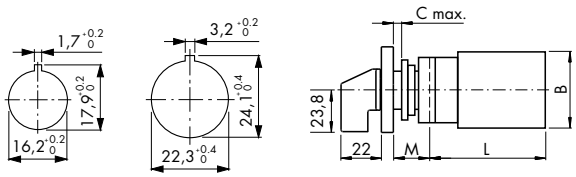
4-/2-hole mounting



Type	A	B	C	M	L (Stages) 2	3
CG4	30	28	5	12,5	50,5	62,5
CH10	48	46	6	18,2	57,5	71,5

Single hole mounting, IP66

CG4 CG4 / CH10



Complete items

2-hole mounting (CG4)
4-hole mounting (CH10)

Single hole mounting, IP66
16 / 22 mm (CG4), 22 mm (CH10)

Control switch – Start switch — START

	I u / I th	Poles	Stages	Switch program see page	Name	Art. no.	Name	Art. no.
	10 A	–	1	150	CG4.A175.E	**70000018**	CG4.A175.FS2	**70009131**
	20 A	–		150	CH10.A175.E	**70012751**	CH10.A175.FT2	**70012752**

Control switch – Stop-start switch (with spring return from start to run) — 0–1–START

	I u / I th	Poles	Stages	Switch program see page	Name	Art. no.	Name	Art. no.
	10 A	–	1	31	CG4.A178.E	**70018644**	CG4.A178.FS2	**70008817**
	20 A	–		31	CH10.A178.E	**70008734**	CH10.A178.FT2	**70011276**

Coding switch binary code (360° rotation) — 0–1–2–3–4–5–6–7

	I u / I th	Poles	Stages	Switch program see page	Name	Art. no.	Name	Art. no.
	10 A	–	2	24	CG4-1.A540.E	**70009423**	CG4-1.A540.FS2	**70009150**
	6 A	–		24	CH11.A540.E	**70015880**	CH11.A540.FT2	**70015882**

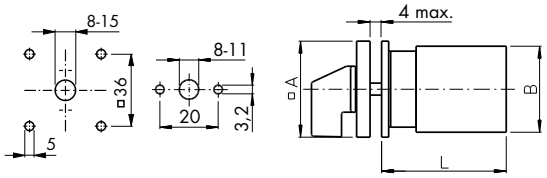
Coding switch binary code — 0–1–2–3–4–5–6–7–8–9

	I u / I th	Poles	Stages	Switch program see page	Name	Art. no.	Name	Art. no.
	10 A	–	2	25	CG4-1.A550.E	**70023711**	CG4-1.A550.FS2	**70009142**
	6 A			25	CH11.A550.E	**70015885**	CH11.A550.FT2	**70015887**

Coding switch binary code (360° rotation) — 0–1–2–3–4–5–6–7–8–9–10–11

	I u / I th	Poles	Stages	Switch program see page	Name	Art. no.	Name	Art. no.
	10 A	–	2	25	CG4-1.A543.E	**70033804**	CG4-1.A543.FS2	**70009346**
	6 A	–		25	CH11.A543.E	**70009579**	CH11.A543.FT2	**70015884**

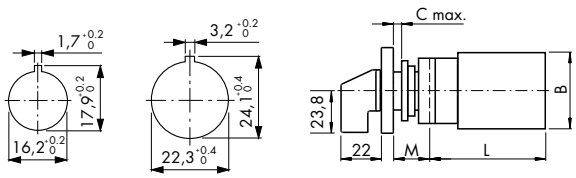
4-/2-hole mounting



Type	A	B	C	M	L (Stages) 1	L (Stages) 2
CG..	30	28	5	12,5	38,5	50,5
CH..	48	46	6	18,2	43,5	57,5

Single hole mounting, IP66

CG4 CG4/CH10



Front elements

Push buttons non-illuminated

Front element flush

Front plate extended

Front element extended

Front plate flush

Push buttons illuminated

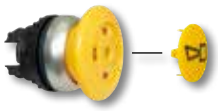
Front element flush

Front plate extended

Front element extended

Front plate flush

Mushroom push-button



Front element pre-assembled + Front plate

Rotary switches

non-illuminated

Front element pre-assembled

illuminated

Front element pre-assembled

key operated

Front element pre-assembled

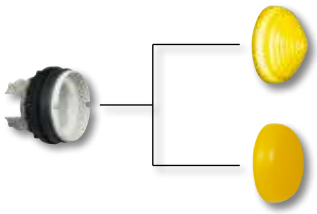
Double-push buttons

Front element pre-assembled

Emergency-stop/OFF push buttons

Front element pre-assembled

Pilot lights



Colour caps extended (conical)

Colour caps flush

Solid pilot lights

available with flush or extended colour cap

Potentiometer

incl. resistor

Acoustic device

Contact blocks and LED pilot light assemblies

Coupling plate

Contact block

LED pilot light assembly

LED series elements



Pre-assembled units

Push buttons flush, pilot lights flush, solid pilot lights 86
Rotary switches, double-push buttons, potentiometer, compact Acoustic device 86
Emergency-stop/OFF push buttons, emergency-stop/OFF push buttons enclosed 87

Front elements

Push buttons non-illuminated – illuminated, pilot lights, rotary switches 88
Mushroom push buttons, emergency-stop/OFF push buttons 89
Double-push buttons, 4-position-push buttons, rotary switches key operated, reset units, blank cover 89

Front element components

Push buttons, non-illuminated–illuminated, pilot lights 90

Coupling plates, lamps and contact blocks

Coupling plates, LED pilot light assemblies, LED series elements, contact blocks 91

Enclosure

Plastic enclosures 92

Front plates and colour caps

Inscriptions 85

Accessories

Legend carrier, Face plate, legend plate 93
Face plate, protective shroud, DIN rail adapter 94
Bulb extractor, nut key, protective shroud, fixation nut, spare key, rod link, coding pieces, lamps 95

Adapted to your special needs

Front element

> Ergonomical design , Front rings metallic coloured or black
> Illuminated elements offer excellent brightness and contrast in all light conditions
> Pilot lights with perfect light due to special lenses
> Any inscription, abrasion-resistant by laser
> Latched push buttons and rotary switches are programmable for spring return function
> Mushroom push buttons with large surface
> High protection and food resistance: push buttons and pilot lights IP67/IP69K, double-push buttons and rotary switches IP66
> Available with protective caps for special operating

Legend plate

> For front elements and double-push buttons
> With legend inserts
> Available with lasered or engraved inscriptions

Fixation nut

> Included in delivery of front elements
> Nut key for fixation nuts available as accessory

Coupling plate

> For contact blocks and LED pilot light assemblies
> Max. 3 elements per contact level
> Up to 6 contacts on 2 contact levels are possible

Contact blocks and LED pilot light assemblies

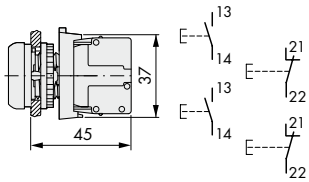
Contact blocks
> Available as N/C and N/O
> High switching capacity, both in AC-15- and DC-13-operation 2 levels possible

LED pilot light assemblies
> Available in green, red and white
> Long life (100 000 running hours) by especially low power consumption and vibration resistance
> With only 2 voltage ranges the worldwide common applications are fulfilled
> LED series elements for decoupled function control are available

Pre-assembled units

Push buttons flush, IP67 / IP69K

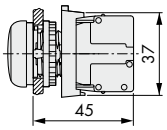
non-illuminated



Colour	Name	Art. no.
●	P.SN-WD0001	**2135692**
●	P.SN-WD0002	**2169037**
●	P.SN/D/G/X1-K10	**2135693**
●	P.SN/D/R/X0-K01	**2135694**

Pilot lights flush, IP67 / IP69K

with LED element

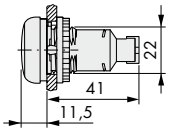


12 V-30 V AC/DC	P.SN-WD0003	**2169038**
12 V-30 V AC/DC	P.SN-WD0004	**2169039**
85 V-264 V AC	P.SN-WD0005	**2169040**
85 V-264 V AC	P.SN-WD0006	**2169041**

Solid pilot lights, IP67 / IP69K

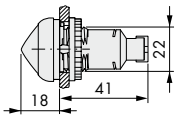
for bulbs, neon bulbs and LEDs up to 2,4 W
with BA 9s lamp socket (without bulb)

flush



P.SN/LC/G	**2169089**
P.SN/LC/R	**5000070**
P.SN/LC/Y	**2169091**
P.SN/LC/B	**2169088**
P.SN/LC/W	**2169090**

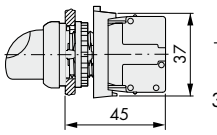
extended (conical)



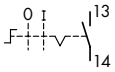
P.SN/LCH/G	**2169093**
P.SN/LCH/R	**2169094**
P.SN/LCH/Y	**2169096**
P.SN/LCH/B	**2169092**
P.SN/LCH/W	**2169095**

Rotary switches, IP66

non-illuminated, latched
(changeable by coding
pieces to spring return function)

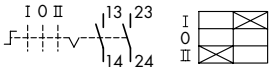


2 positions



P.SN/WRK-K10	**2169109**

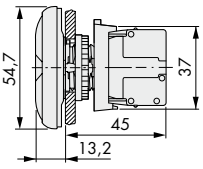
3 positions



P.SN/WRK3-K20	**2169111**

Double-push buttons, IP66

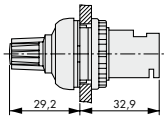
with LED element 85–264 V AC
colour cap white (opaque)



P.SN/DDL/GR/X1-X0-K11	**2169076**

Potentiometer, IP66

3 separate screw terminals
P max. = 0,5 W



kΩ	Name	Art. no.
1	P.SN/R1K	**5000806**
4,7	P.SN/R4K7	**5000808**
10	P.SN/R10K	**5000805**
100	P.SN/R100K	**5000804**

Compact acoustic device, IP40

without buzzer, BA 9s lamp socket

P.SN/AMC	**5001070**

Buzzer for acoustic device

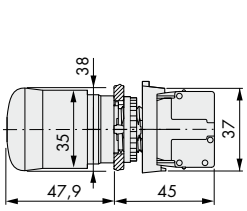
Continuous tone, 18–30 V AC / DC,
83 dB / 10 cm, 18–30 mA,
plus terminal at X1, f = 2300 Hz

P.SN/XAM	**5001071**

Pre-assembled units

Emergency-stop/OFF push buttons, IP67 / IP69K

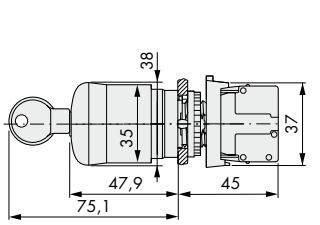
Fool-proof acc. to ISO 13850 / EN 418,
reset by pulling,
complement max.: 4 contact blocks



Name	Art. no.
P.SN/PV-K01	**2169098**
P.SN/PV-K11	**2169099**

Emergency-stop/OFF push buttons, IP67 / IP69K

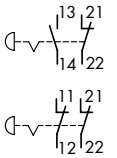
Reset by key operation,
1 key, locking MS1



Name	Art. no.
P.SN/PVS-K01	**2169102**
P.SN/PVS-K11	**2233134**

Emergency-stop/OFF push buttons enclosed, IP67 / IP69K

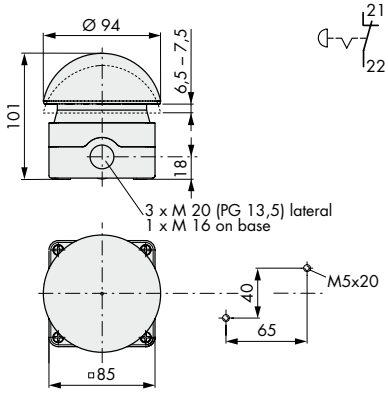
Enclosure yellow–black,
reset by pulling,
complement max.: 3 contact blocks



Name	Art. no.
P.SN/PV-KC11-IY	**5000800**
P.SN/PV-KC02-IY	**5000799**

Emergency-stop/OFF push buttons enclosed, IP67 / IP69K

Foot and palm switch,
enclosure yellow–black,
reset by pulling,
complement max.: 3 contact blocks

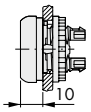


Name	Art. no.
P.FT/R-V-KC01-IY	**5000721**

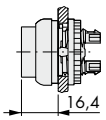
Front elements

Push buttons non-illuminated
IP67 / IP69K

flush



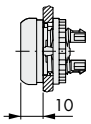
extended



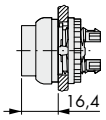
Colour	Name	Art. no.	Name	Art. no.
	spring return, flush		*spring return, extended*	
●	P.SN/D/S	**5000738**	P.SN/DH/S	**On request**
○	P.SN/D/W	**2169074**	P.SN/DH/W	**On request**
●	P.SN/D/R	**5000737**	P.SN/DH/R	**2169078**
●	P.SN/D/G	**5000059**	P.SN/DH/G	**2169077**
●	P.SN/D/Y	**2169075**	P.SN/DH/Y	**2235198**
●	P.SN/D/B	**2169071**	P.SN/DH/B	**2326531**
◎	P.SN/D/R/X0	**2169073**	P.SN/DH/R/X0	**2219211**
◧	P.SN/D/G/X1	**2169072**	P.SN/DH/G/X1	**On request**
◨	–	**–**	P.SN/DH/W/X1	**2169079**
◎	–	**–**	P.SN/DH/S/X0	**On request**

Push buttons illuminated
IP67 / IP69K

flush



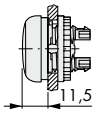
extended



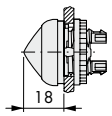
Colour	Name	Art. no.	Name	Art. no.	Name	Art. no.
	spring return, flush		*latched, flush*		*spring return, extended*	
○	P.SN/DL/W	**2169082**	P.SN/DRL/W	**2169087**	P.SN/DLH/W	**2169086**
●	P.SN/DL/R	**5000752**	P.SN/DRL/R	**2232765**	P.SN/DLH/R	**2169085**
●	P.SN/DL/G	**5000751**	P.SN/DRL/G	**2232613**	P.SN/DLH/G	**2169084**
●	P.SN/DL/Y	**2169083**	P.SN/DRL/Y	**5001291**	P.SN/DLH/Y	**5001103**
●	P.SN/DL/B	**5000750**	P.SN/DRL/B	**2221166**	P.SN/DLH/B	**5001102**
◎	P.SN/DL/R/X0	**2169081**				
◧	P.SN/DL/G/X1	**2169080**				

Pilot lights
IP67 / IP69K

flush



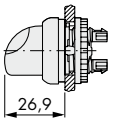
extended (conical)



	flush		*extended (conical)*	
○	P.SN/L/W	**5000069**	P.SN/LH/W	**5000795**
●	P.SN/L/R	**5000150**	P.SN/LH/R	**5000077**
●	P.SN/L/G	**5000782**	P.SN/LH/G	**5000076**
●	P.SN/L/Y	**5000784**	P.SN/LH/Y	**5000796**
●	P.SN/L/B	**5000781**	P.SN/LH/B	**2169097**

Rotary switches
IP66

non-illuminated

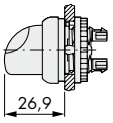


	2 spring return positions		*2 latching positions* [1]		*3 spring return positions*		*3 spring return positions*	
	P.SN/WK	**5000814**	P.SN/WRK	**5000821**	P.SN/WK3	**5000815**	P.SN/WRK3	**5000822**

[1] Changeable by coding pieces from latching (60° switching angle) to spring return function (40° switching angle).

Rotary switches
IP66

illuminated



Colour	Name	Art. no.	Name	Art. no.
	2 Stellungen tastend		*2 Stellungen rastend* [1]	
○	P.SN/WLK/W	**5000817**	P.SN/WRLK/W	**5000826**
●	P.SN/WLK/R	**On request**	P.SN/WRLK/R	**5000825**
●	P.SN/WLK/G	**On request**	P.SN/WRLK/G	**5000824**
●	P.SN/WLK/Y	**5000818**	P.SN/WRLK/Y	**5000827**
●	P.SN/WLK/B	**On request**	P.SN/WRLK/B	**5000823**

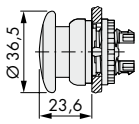
	3 Stellungen tastend		*3 Stellungen rastend* [1]	
○	P.SN/WLK3/W	**5000820**	P.SN/WRLK3/W	**5000831**
●	P.SN/WLK3/R	**On request**	P.SN/WRLK3/R	**5000830**
●	P.SN/WLK3/G	**5000819**	P.SN/WRLK3/G	**5000829**
●	P.SN/WLK3/Y	**On request**	P.SN/WRLK3/Y	**5000832**
●	P.SN/WLK3/B	**On request**	P.SN/WRLK3/B	**5000828**

[1] Changeable by coding pieces from latching (60° switching angle) to spring return function (40° switching angle).

Front elements

Mushroom push buttons, IP67 / IP69K

without front plate



Colour	Name	Art. no.	Name	Art. no.
	spring return		*latched*	
●	P.SN/DP/S/X	**5000755**	P.SN/DRP/S/X	**5000761**
●	P.SN/DP/R/X	**5000754**	P.SN/DRP/R/X	**5000760**
●	P.SN/DP/G/X	**5000753**	P.SN/DRP/G/X	**5000759**
●	P.SN/DP/Y/X	**5000756**	P.SN/DRP/Y/X	**5000762**

front plate for mushroom push buttons

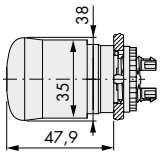
○	P.SN/XDP/W	**5000939**
●	P.SN/XDP/S	**5000931**
●	P.SN/XDP/R	**5000927**
●	P.SN/XDP/G	**5000923**
●	P.SN/XDP/Y	**5000940**

Inscripted front plates refer page 97

Emergency-stop/OFF push buttons

IP67 / IP69K (turn), IP66 / IP69K (pull)
fool-proof acc. to ISO 13 850 / EN418

non-illuminated

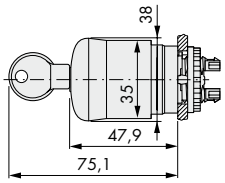


Colour	Name	Art. no.
●	P.SN/PV (reset by pulling)	**5000798**
●	P.SN/PVT (reset by turning)	**5000079**

illuminated

●	P.SN/PVL (reset by pulling)	**5000801**
●	P.SN/PVLT (reset by turning)	**5000802**

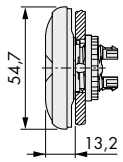
Reset by key operation,
1 key, locking MS1



●	P.SN/PVS	**5000803**

Double-push buttons, IP66

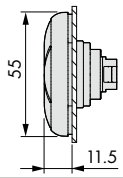
Colour cap white (opaque)



Colour	Name	Art. no.
■ ■	P.SN/DDL/GR	**5000741**
I ○	P.SN/DDL/GR/X1-X0	**5000061**
START STOP	P.SN/DDL/GR/GB1-GB0	**5000742**
1 1	P.SN/DDL/S/X7-X7	**5000744**

4-position-push buttons, IP66

4 contacts in combination
with coupling plate P SN/A4

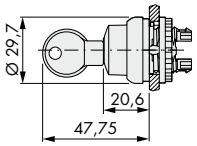


Colour	Name	Art. no.
black	P.SN/D4/S/X7	**On request**

Rotary switches key operated, IP66

switching angle 60°, latched,
changeable by coding pieces
to spring return function (40°
switching angle)

1 key, locking MS1



	2 positions ↓	*3 positions* ⇓
The key is removable in all switch positions	P.SN/WRS **5000833**	P.SN/WRS3 **5000834**
The key is removable only in O-position.	P.SN/WRS/A1 **2169112**	P.SN/WRS3/A1 **2169113**

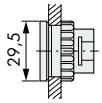
Reset units, IP67 / IP69K

non-illuminated
blue

Inscription	Name	Art. no.
RESET	P.SN/DZ/B/GB14	**5000763**
R	P.SN/DZ/B/X6	**5000764**

Blank cover, IP67 / IP69K

for surplus control positions

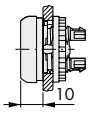


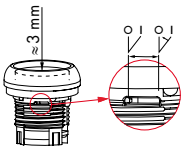
Colour	Name	Art. no.
grey	P.SN/B	**5000735**
black	P.SB/B	**5000723**

Front element components

Push buttons non-illuminated, IP67 / IP69K, without front plate

with flush Front ring

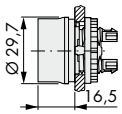




Changeable by coding pieces to spring return function

Name	Art. no.
spring return	
P.SN/D/X	**5000060**
latched	
P.SN/DR/X	**5000757**

with extended Front ring



spring return	
P.SN/DG/X	**5000748**

Front plates for push buttons non-illuminated

flush

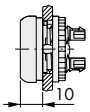
extended

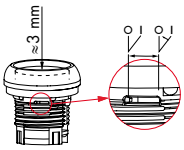
Colour	Name	Art. no.
●	P.SN/XD/S	**5000083**
○	P.SN/XD/W	**5000120**
●	P.SN/XD/R	**5000847**
●	P.SN/XD/G	**5000843**
●	P.SN/XD/Y	**5000875**
●	P.SN/XD/B	**5000840**
●	P.SN/XDH/S	**On request**
○	P.SN/XDH/W	**5000884**
●	P.SN/XDH/R	**5000878**
●	P.SN/XDH/G	**5000877**
●	P.SN/XDH/Y	**5000886**
●	P.SN/XDH/B	**5000876**

Inscripted front plates refer page 96

Push buttons illuminated, IP67 / IP69K, without front plate

with flush Front ring

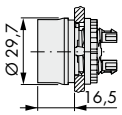




Changeable by coding pieces to spring return function

Name	Art. no.
spring return	
P.SN/DL/X	**5000062**
latched	
P.SN/DRL/X	**5000758**

with extended Front ring



spring return	
P.SN/DGL/X	**5000749**

Front plates for Push buttons illuminated

flush

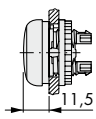
extended

Colour	Name	Art. no.
○	P.SN/XDL/W	**5000090**
●	P.SN/XDL/R	**5000892**
●	P.SN/XDL/G	**5000889**
●	P.SN/XDL/Y	**5000093**
●	P.SN/XDL/B	**5000087**
○	P.SN/XDLH/W	**5000914**
●	P.SN/XDLH/R	**5000912**
●	P.SN/XDLH/G	**5000910**
●	P.SN/XDLH/Y	**5000922**
●	P.SN/XDLH/B	**5000909**

Inscripted front plates refer page 96

Pilot lights

IP67 / IP69K, flush, without colour cap



Name	Art. no.
P.SN/L/X	**5000783**

Colour caps for pilot lights

Colour	Name	Art. no.
○	P.SN/XL/W	**5000097**
●	P.SN/XL/R	**5000096**
●	P.SN/XL/G	**5000095**
●	P.SN/XL/Y	**5000098**
●	P.SN/XL/B	**5000094**

Inscripted front plates refer page 96

Coupling plates, lamps & contact blocks

Coupling plate

for 3 contact or lamp blocks

Configuration

1 / 4	3 / 6	2 / 5

for 1. level

for 2. level

Name	Art. no.
P.SN/A	**5000058**

or 4 contact blocks
(only with 4 position push-button)

Configuration

4	3	2	1

P.SN/A4	**5000734**

Contact blocks

front mounting

1. number
Configuration of
fixed adapter

1 / 4	3 / 6	2 / 5

1. serie

2. serie

2. number of contact element

3 4	P.SN/K10	**5000068**
1 2	P.SN/K01	**5000067**

Safety function by direct opening action acc. to IEC/EN 60947-5-1

for Plastic enclosures

1. number
Configuration of
fixed adapter

2	3	1

3 4	P.SN/KC10	**5000780**
1 2	P.SN/KC01	**5000779**

Safety function by direct opening action acc. to IEC/EN 60947-5-1

LED lamp element

front mounting

for Plastic enclosures

	Colour	Name	Art. no.
12 V–30 V AC/DC	○	P.SN/LED/W	**5000073**
	●	P.SN/LED/R	**5000072**
	●	P.SN/LED/G	**5000071**
	●	P.SN/LED/B	**5000786**
85 V–264 V AC	○	P.SN/LED230/W	**5000074**
	●	P.SN/LED230/R	**5000788**
	●	P.SN/LED230/G	**5000787**
	●	P.SN/LED230/B	**5001121**
12 V–30 V AC/DC	○	P.SN/LEDC/W	**5000791**
	●	P.SN/LEDC/R	**5000790**
	●	P.SN/LEDC/G	**5000789**
	●	P.SN/LEDC/B	**5001122**
85 V–264 V AC	○	P.SN/LEDC230/W	**5000794**
	●	P.SN/LEDC230/R	**5000793**
	●	P.SN/LEDC230/G	**5000792**
	●	P.SN/LEDC230/B	**5001123**

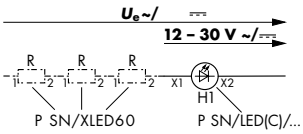
LED serie element

front and base mounting

Resistor element for 42 V–60 V AC/DC for pilot light assemblies 12 V–30 V AC/DC	P.SN/XLED60	**5000971**

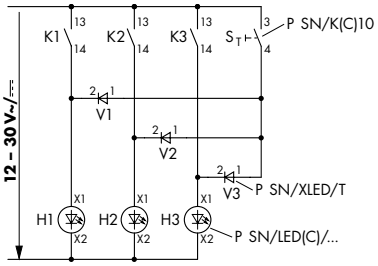
LED test elements for decoupled operational test for connecting to:

12 V–30 V AC/DC	P.SN/XLED/T	**5000968**
85 V–264 V AC/DC	P.SN/XLED230/T	**5000970**

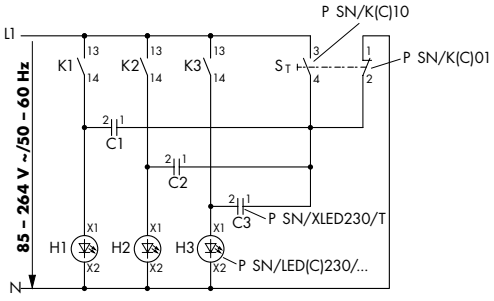


P SN/XLED60	1 x	2 x	3 x	4 x	5 x	6 x	7 x
U_e ≤	60 V	90 V	120 V	150 V	180 V	210 V	240 V

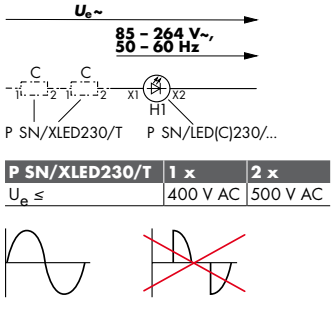
P SN/XLED/T



P SN/XLED/T



P SN/XLED230/T



P SN/XLED230/T	1 x	2 x
U_e ≤	400 V AC	500 V AC

Plastic enclosures, IP67 / IP69 (totally insulated, lid screws made of stainless steel)

yellow / black

one control position
complement max.: 3 contact blocks

Name	Art. no.
P.SN/IY1	**5000778**

grey / black

one control position
complement max.: 3 contact blocks

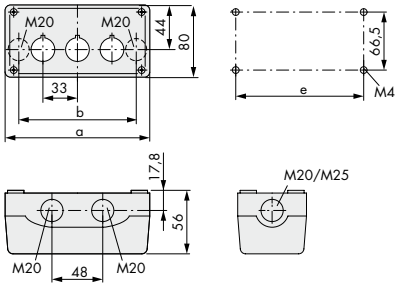
P.SN/I1	**5000066**

grey / black

2–6 control positions
complement max.:
3 contact blocks per control position

Control positions	Name	Art. no.
2	P.SN/I2	**5000773**
3	P.SN/I3	**5000774**
4	P.SN/I4	**5000775**
6*	P.SN/I6	**5000776**

*IP66



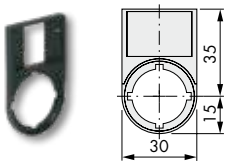
Type	a	b	e	Bushes		
P.SN/IY1	72	42,6	58,5	2xM16	3xM20	2xM25
P.SN/I1	72	42,6	58,5	2xM16	3xM20	2xM25
P.SN/I2	120	85,6	106,5	2xM20	3xM20	2xM25
P.SN/I3	153	118,6	139,5	2xM20	2xM25	4xM20
P.SN/I4	186	151,6	172,5	2xM20	2xM25	4xM20
P.SN/I6	252	217,6	238,5	2xM20	2xM25	4xM20

Notice:
Enclosure is suitable for Mounting of Switch type CA4 with 1 or 2 contacts or CA4N with max. 4 contacts of mounting FS1 and FS2.

Accessories

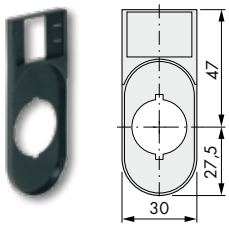
Legend carrier, IP66 (without plate)

for push buttons



Name	Art. no.
P.SB/ST/X	**5000057**

for double-push buttons



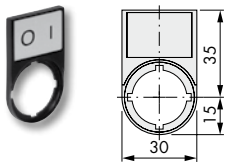
Name	Art. no.
P.SB/STDD/X	**5000057**

Face plates

for legend carrier

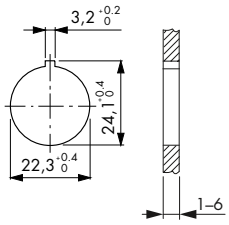
Name	Art. no.
P.SN/XST	**5000099**

Legend plates, IP66 (complete standard unit)

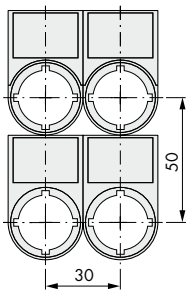


Inscription	Name	Art. no.	Inscription	Name	Art. no.
O I	P.SB/ST/X88	**2168996**			
O I	P.SB/ST/X89	**2168997**	FAULT	P.SB/ST/GB8	**2168995**
I O II	P.SB/ST/X93	**2168998**	RUN	P.SB/ST/GB7	**2168994**
STOP	P.SB/ST/GB0	**2168987**	HAND AUTO	P.SB/ST/D11	**2168981**
START	P.SB/ST/GB1	**2168988**	MAN. AUTO	P.SB/ST/GB11	**2168990**
OFF	P.SB/ST/GB5	**2168992**	OFF ON	P.SB/ST/GB10	**2168989**
EIN	P.SB/ST/D6	**2168984**	HAND 0 AUTO	P.SB/ST/D12	**2168982**
ON	P.SB/ST/GB6	**2168993**	MAN. 0 AUTO	P.SB/ST/GB12	**2168991**

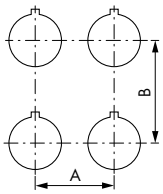
Mounting drilling with slot



Grid dimension acc. to IEC/EN 60947

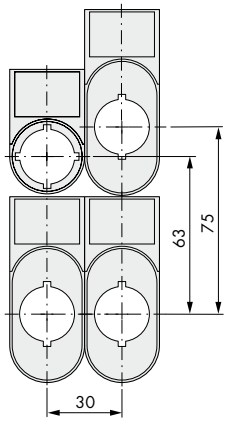


Grid dimension for different combinations

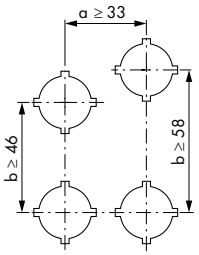


Type	A≥	B≥
P.SN/...(IEC/EN 60947)	30	50
P.SN/...	30	40
P.SN/D... + P.SN/T/D	33	40
P.SN/D(R)P...	38	40
P.SN/PV...	38	40
P.SN/PV(L...)(S...) + P.SN/D...	33	40
P.SN/DDL...	30	55
P.SN/DDL... + P.SN/T/DD	33	58
P SB/ST 30	30	50
P SB/STDD	30	75
P.SN/XAK...	90	90
P.SN/XZK...	33	52
P.SN/XBK...	60	60
P.SN/XYK...	50	50

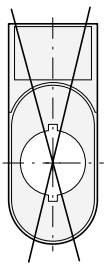
Grid dimension for P.SN/DD...



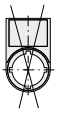
Grid dimension for P.SN/DD... with protection cap P.SN/T/DD



Protection cap and protective shroud cannot be combined with legend carrier



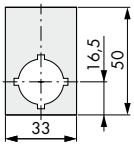
Protection cap cannot be combined with legend carrier



Accessories

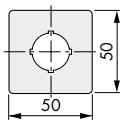
Emergency-stop plates IP66

rectangular,
(shown here without inscription)



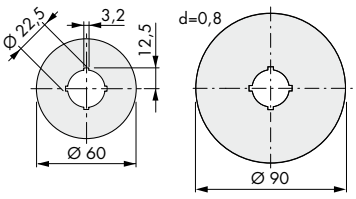
Inscription	Name	Art. no.
EMERGENCY-STOP	P.SN/XZK/GB99	**5000981**

square, multi-language



Inscription	Name	Art. no.
EMERGENCY-STOP	P.SN/XYK1	**5000979**

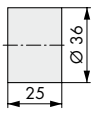
round, multi-language



Ø	Inscription	Name	Art. no.
60	EMERGENCY-STOP	P.SN/XBK11	**5001127**
90	EMERGENCY-STOP	P.SN/XAK11	**5001126**

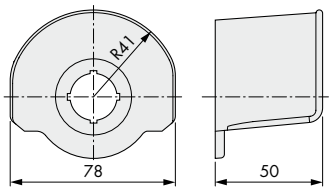
Protective shrouds

IP66
- protection against accidental operation
- for push buttons and rotary switches
- cannot be combined with legend plates



Name	Art. no.
P.SN/XGWK	**5000942**

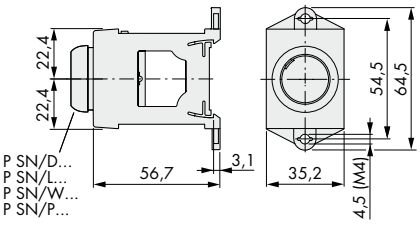
IP65
- yellow, for Emergency-stop/ OFF push buttons
- cannot be combined with legend plates



P.SN/XGPV	**5000941**

DIN rail adapter

for DIN rails acc. to EN 60715
for front mounted units



P.SN/IVS	**5000777**

Accessories

Bulb extractor

Name	Art. no.
P.SN/LGL	**5001340**

Nut key

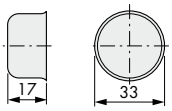
for push buttons,
pilot lights
and rotary switches

P.SN/MS	**5000078**

Protection caps

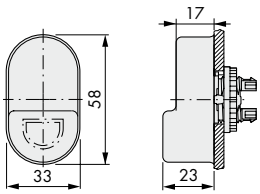
IP67, transparent, for aggressive environments
(not in food areas), cannot be combined with legend plates

for push buttons, flush
and pilot lights, flush



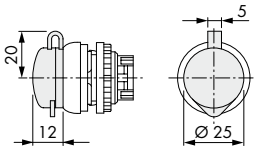
P.SN/T/D	**5000810**

for double-push buttons



P.SN/T/DD	**5000811**

for rotary switches key operated
prevents dirt and dust from getting
into the keyhole (not in food areas)



P.SN/XWS	**5000978**

Fixation nut

for push buttons, pilot lights and rotary switches

P.SN/GR	**5000772**

Spare key

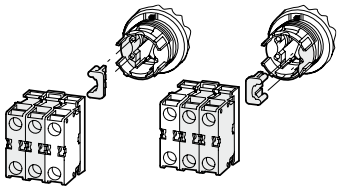
for locking MS1

P.SN/ES/MS1	**5000765**

Rod link

for operating the middle contact block
of non-illuminated rotary switches with 3 positions

For the middle
contact block of
rotary switches
with 2 or 3
positions

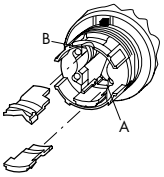


P.SN/XW	**5000977**

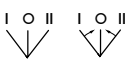
Coding pieces

for rotary switches to convert the latched
function into spring return function
(1 kit = 2 pieces)

Rotary switches



P.SN/XC/Y in B



P.SN/XC/Y in A and B

Key is removable
in spring return position

P.SN/XC/Y	**5000839**

Front plates for push buttons

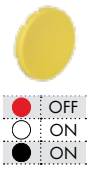
Colour	Inscription	Meaning	non-illuminated flush		non-illuminated extended		illuminated flush		illuminated extended	
			Name	Art. no.	Name	Art. no.	Name	Art. no.	Name	Art. no.
●	STOP		P.SN/XD/R/GB0	**5000849**	P.SN/XDH/R/GB0	**5000879**	P.SN/XDL/R/GB0	**5000893**	P.SN/XDLH/R/GB0	**5000913**
○	STOP						P.SN/XDL/W/GB0	**5000896**	P.SN/XDLH/W/GB0	On request
●	STOP		P.SN/XD/S/GB0	**5001272**	P.SN/XDH/S/GB0	On request				
●	START		P.SN/XD/G/GB1	**5000844**	P.SN/XDH/G/GB1	On request	P.SN/XDL/G/GB1	**5000890**	P.SN/XDLH/G/GB1	**5000911**
○	START						P.SN/XDL/W/GB1	**5000897**	P.SN/XDLH/W/GB1	On request
	CLOSE						P.SN/XDL/W/GB2	On request	P.SN/XDLH/W/GB2	On request
	UP						P.SN/XDL/W/GB3	**5001110**	P.SN/XDLH/W/GB3	On request
	DOWN						P.SN/XDL/W/GB4	**5001112**	P.SN/XDLH/W/GB4	On request
○	START		P.SN/XD/W/GB1	On request	P.SN/XDH/W/GB1	On request				
●	CLOSE		P.SN/XD/S/GB2	On request	P.SN/XDH/S/GB2	On request				
	UP		P.SN/XD/S/GB3	**5000861**	P.SN/XDH/S/GB3	On request				
	DOWN		P.SN/XD/S/GB4	**5000862**	P.SN/XDH/S/GB4	On request				
●	OFF		P.SN/XD/R/GB5	**5000850**	P.SN/XDH/R/GB5	On request	P.SN/XDL/R/GB5	On request	P.SN/XDLH/R/GB5	On request
○	ON						P.SN/XDL/W/GB6	**5000898**	P.SN/XDLH/W/GB6	**5000919**
	TEST						P.SN/XDL/W/GB9	**5001032**	P.SN/XDLH/W/GB9	On request
●	ON		P.SN/XD/S/GB6	**5000863**	P.SN/XDH/S/GB6	On request				
	TEST		P.SN/XD/S/GB9	**5000864**	P.SN/XDH/S/GB9	On request				
●	RESET		P.SN/XD/B/GB14	**5000841**	P.SN/XDH/B/GB14	On request	P.SN/XDL/B/GB14	**5000887**	P.SN/XDLH/B/GB14	On request
○	FORWARD						P.SN/XDL/W/GB15	On request	P.SN/XDLH/W/GB15	On request
	REVERSE						P.SN/XDL/W/GB16	On request	P.SN/XDLH/W/GB16	On request
	RAISE						P.SN/XDL/W/GB17	**5001072**	P.SN/XDLH/W/GB17	On request
	LOWER						P.SN/XDL/W/GB18	**5001073**	P.SN/XDLH/W/GB18	On request
●	FORWARD		P.SN/XD/S/GB15	**5000859**	P.SN/XDH/S/GB15	On request				
	REVERSE		P.SN/XD/S/GB16	**5000860**	P.SN/XDH/S/GB16	On request				
	RAISE		P.SN/XD/S/GB17	**5001129**	P.SN/XDH/S/GB17	On request				
	LOWER		P.SN/XD/S/GB18	**5001128**	P.SN/XDH/S/GB18	On request				
●	O	Stop	P.SN/XD/R/X0	**5000082**	P.SN/XDH/R/X0	**5000880**	P.SN/XDL/R/X0	**5000089**	P.SN/XDLH/R/X0	On request
○	O	Stop					P.SN/XDL/W/X0	**5000091**	P.SN/XDLH/W/X0	On request
●	O	Stop	P.SN/XD/S/X0	**5000865**	P.SN/XDH/S/X0	**5001033**				
●	I	Start	P.SN/XD/G/X1	**5000081**	P.SN/XDH/G/X1	**5001040**	P.SN/XDL/G/X1	**5000088**	P.SN/XDLH/G/X1	On request
○	I	Start					P.SN/XDL/W/X1	**5000092**	P.SN/XDLH/W/X1	**5001230**
●	I	Start	P.SN/XD/S/X1	**5000866**	P.SN/XDH/S/X1	**5000882**				
○	I	Start	P.SN/XD/W/X1	**5000085**	P.SN/XDH/W/X1	**5000885**				
●	II	Start	P.SN/XD/G/X2	**5000846**	P.SN/XDH/G/X2	On request	P.SN/XDL/G/X2	**5000891**	P.SN/XDLH/G/X2	On request
○	II	Start					P.SN/XDL/W/X2	**5000900**	P.SN/XDLH/W/X2	On request
●	II	Start	P.SN/XD/S/X2	**5001310**	P.SN/XDH/S/X2	On request				
○	+	Increase					P.SN/XDL/W/X4	**5000901**	P.SN/XDLH/W/X4	On request
	-	Decrease					P.SN/XDL/W/X5	**5000902**	P.SN/XDLH/W/X5	On request
●	+	Increase	P.SN/XD/S/X4	**5000084**	P.SN/XDH/S/X4	On request				
	-	Decrease	P.SN/XD/S/X5	**5000140**	P.SN/XDH/S/X5	On request				
●	R	Reset	P.SN/XD/S/X6	On request	P.SN/XDH/S/X6	On request	P.SN/XDL/B/X6	**5000888**	P.SN/XDLH/B/X6	**5001046**
●	↑	Guide motion	P.SN/XD/S/X7	**5000872**	P.SN/XDH/S/X7	**5000883**				
	↖	Guide motion	P.SN/XD/S/X8	**5001232**	P.SN/XDH/S/X8	On request				
		Hand-control	P.SN/XD/S/X9	**5000873**	P.SN/XDH/S/X9	On request				
		Automatic cycle	P.SN/XD/S/X10	On request	P.SN/XDH/S/X10	On request				
		Inching	P.SN/XD/S/X11	On request	P.SN/XDH/S/X11	On request				
		Disengaging	P.SN/XD/S/X12	**5000867**	P.SN/XDH/S/X12	On request				
		Unlocking	P.SN/XD/S/X13	**5000868**	P.SN/XDH/S/X13	On request				
		Tighten	P.SN/XD/S/X14	**5000869**	P.SN/XDH/S/X14	On request				
		Release	P.SN/XD/S/X15	On request	P.SN/XDH/S/X15	On request				
		Liquid	P.SN/XD/S/X16	**5000870**	P.SN/XDH/S/X16	On request				
		Horn	P.SN/XD/S/X17	**5000871**	P.SN/XDH/S/X17	**5000882**				
○	↑	Guide motion					P.SN/XDL/W/X7	**5000903**	P.SN/XDLH/W/X7	**5000921**
	↖	Guide motion					P.SN/XDL/W/X8	On request	P.SN/XDLH/W/X8	On request
		Hand-control					P.SN/XDL/W/X9	**5000904**	P.SN/XDLH/W/X9	On request
		Automatic cycle					P.SN/XDL/W/X10	**5000899**	P.SN/XDLH/W/X10	On request
		Inching					P.SN/XDL/W/X11	**5001420**	P.SN/XDLH/W/X11	On request
		Disengaging					P.SN/XDL/W/X12	On request	P.SN/XDLH/W/X12	On request
		Unlocking					P.SN/XDL/W/X13	**5001240**	P.SN/XDLH/W/X13	On request
		Tighten					P.SN/XDL/W/X14	**5001241**	P.SN/XDLH/W/X14	On request
		Release					P.SN/XDL/W/X15	On request	P.SN/XDLH/W/X15	On request
		Liquid					P.SN/XDL/W/X16	**5001250**	P.SN/XDLH/W/X16	On request
		Horn					P.SN/XDL/W/X17	**5001190**	P.SN/XDLH/W/X17	**5000920**

Front plates for mushroom push buttons

Colour	Inscription	Meaning	non-illuminated	
			Name	Art. no.
●	STOP		P.SN/XDP/R/GB0	**5000929**
●	STOP		P.SN/XDP/S/GB0	On request
●	START		P.SN/XDP/G/GB1	**5000924**
○	START		P.SN/XDP/W/GB1	On request
●	CLOSE		P.SN/XDP/S/GB2	On request
	UP		P.SN/XDP/S/GB3	On request
	DOWN		P.SN/XDP/S/GB4	On request
●	OFF		P.SN/XDP/R/GB5	On request
●	ON		P.SN/XDP/S/GB6	On request
	TEST		P.SN/XDP/S/GB9	**5000937**
	FORWARD		P.SN/XDP/S/GB15	On request
	REVERSE		P.SN/XDP/S/GB16	On request
	RAISE		P.SN/XDP/S/GB17	On request
	LOWER		P.SN/XDP/S/GB18	On request
●	O	Stop	P.SN/XDP/R/X0	**5000930**
●	O	Stop	P.SN/XDP/S/X0	On request
●	I	Start	P.SN/XDP/G/X1	**5000925**
●	I	Start	P.SN/XDP/S/X1	On request
○	I	Start	P.SN/XDP/W/X1	On request
●	II	Start	P.SN/XDP/G/X2	**5000926**
●	II	Start	P.SN/XDP/S/X2	On request
	+	Increase	P.SN/XDP/S/X4	On request
	-	Decrease	P.SN/XDP/S/X5	On request
		Guide motion	P.SN/XDP/S/X7	On request
		Guide motion	P.SN/XDP/S/X8	On request
		Hand-control	P.SN/XDP/S/X9	On request
		Automatic cycle	P.SN/XDP/S/X10	On request
		Inching	P.SN/XDP/S/X11	**5001200**
		Disengaging	P.SN/XDP/S/X12	On request
		Unlocking	P.SN/XDP/S/X13	On request
		Tighten	P.SN/XDP/S/X14	On request
		Release	P.SN/XDP/S/X15	On request
		Liquid	P.SN/XDP/S/X16	On request
		Horn	P.SN/XDP/S/X17	**5000938**

Color caps for pilot lights

Color	Inscription	Meaning	transparent	
			Name	Art. no.
●	STOP		P.SN/XL/R/GB0	On request
○	STOP		P.SN/XL/W/GB0	On request
●	START		P.SN/XL/G/GB1	**5000943**
○	START		P.SN/XL/W/GB1	On request
	CLOSE		P.SN/XL/W/GB2	On request
	UP		P.SN/XL/W/GB3	On request
	DOWN		P.SN/XL/W/GB4	On request
●	OFF		P.SN/XL/R/GB5	**5000948**
○	ON		P.SN/XL/W/GB6	**5000955**
	TEST		P.SN/XL/W/GB9	On request
	FORWARD		P.SN/XL/W/GB15	**5000953**
	REVERSE		P.SN/XL/W/GB16	**5000954**
	RAISE		P.SN/XL/W/GB17	On request
	LOWER		P.SN/XL/W/GB18	On request
●	O	Stop	P.SN/XL/R/X0	**5000951**
○	O	Stop	P.SN/XL/W/X0	**5000956**
●	I	Start	P.SN/XL/G/X1	**5000946**
○	I	Start	P.SN/XL/W/X1	**5000957**
●	II	Start	P.SN/XL/G/X2	On request
○	II	Start	P.SN/XL/W/X2	On request
	+	Increase	P.SN/XL/W/X4	On request
	-	Decrease	P.SN/XL/W/X5	On request
		Guide motion	P.SN/XL/W/X7	On request
		Guide motion	P.SN/XL/W/X8	On request
		Hand-control	P.SN/XL/W/X9	**5000959**
		Automatic cycle	P.SN/XL/W/X10	On request
		Inching	P.SN/XL/W/X11	On request
		Disengaging	P.SN/XL/W/X12	On request
		Unlocking	P.SN/XL/W/X13	On request
		Tighten	P.SN/XL/W/X14	On request
		Release	P.SN/XL/W/X15	On request
		Liquid	P.SN/XL/W/X16	**5000958**
		Horn	P.SN/XL/W/X17	On request



Technical data

			Contact blocks	LED elements	Push buttons, mushroom P/B spring return	Double-push buttons	Rotary switches, rotary switches illuminated
General							
Standards and requirements			IEC/EN 60947, VDE 0660				
Mechanical life	Operations	x 10^6	5	-	5	0,2	0,1
Max. operating frequency		S/h	3600	-	3600	3600	2000
Operating force		N	*≤ 5*	-	*≤ 5*	*≤ 5*	-
Operating torque		Nm	*≤ 0,8 (Terminals)*	*≤ 0,8 (Terminals)*	-	-	≤ 0,3
Degree of protection IEC/EN 60529			IP20	IP20	IP67/IP69K	IP67/IP69K	IP66
Environmental resistance			Humidity, constant, acc. to IEC 60068-2-78 Humidity, cyclic, acc. to IEC 60068-2-30				
Ambient temperature	min./max.	°C	-25/+70	-25/+70 [1]	-25/+70	-25/+70	-25/+70
Mounting position			any				
Shock withstand acc. to IEC 60068-2-27 Shock period 11 ms, sinus wave		g	> 30				
Terminal cross-sections							
single wire	min. – max.	mm^2	0,75–2,5	0,75–2,5	-	-	-
stranded wire	min. – max.	mm^2	0,5–2,5	0,5–2,5	-	-	-
Current paths							
Rated impulse withstand voltage U_{imp}		V	6000	6000	-	-	-
Rated Insulation voltage U_i		V	500	500	-	-	-
Overvoltage category/ Pollution degree			III/3	III/3	-	-	-
Control circuit reliability at 24 V DC/5 mA 5 V DC/1 mA	 Fault frequency H_F Fault frequency H_F		 < 10^{-7}, < 1 failure per 10^7 operations < 5 x 10^{-6}, < 1 failure per 5 x 10^6 operations				
Max. fuse size	Characteristic	A gl/gG	10	-	-	-	-
Switching capacity							
Rated operational current I_e							
AC-15 115 V		A	6	-	-	-	-
230 V		A	6	-	-	-	-
400 V		A	4	-	-	-	-
500 V		A	2	-	-	-	-
DC-13 24 V		A	3	-	-	-	-
42 V		A	1,7	-	-	-	-
60 V		A	1,2	-	-	-	-
110 V		A	0,6	-	-	-	-
220 V		A	0,3	-	-	-	-
Electrical life							
AC-15 230 V/0,5 A	Operations	x 10^6	1,6	-	-	-	-
230 V/1,0 A	Operations	x 10^6	1,0	-	-	-	-
230 V/3,0 A	Operations	x 10^6	0,7	-	-	-	-
DC-13 12 V/2,8 A	Operations	x 10^6	1,2	-	-	-	-
Approvals							
Technical data On request			USA/Canada				

[1] > 200 V AC/60 Hz: -25/+55 °C

IEC/EN 609
> 0,1
IP67/IP69K
Humidity
-25/+40

Technical data

			Rotary switches key operated	Potentiometer, Solid pilot lights	Pilot lights	Push buttons, Push buttons illuminated, Mushroom P/B latched	Emergency-stop/ OFF push buttons
General							
Standards and requirements			IEC/EN 60947, VDE 0660				
Mechanical life	Operations	x 10^6	> 0,1			> 0,1	> 0,1
Max. operating frequency		S/h	100			1800	600
Operating force		N				*≤ 5*	*≤ 50*
Operating torque		Nm	*≤ 0,5*				
Degree of protection IEC/EN 60529			IP66	IP66 (Potentiometer) IP67/IP69K (Pilot lights)	IP67/IP69K	IP67/IP69K	reset by turning IP66/IP69K reset by pulling IP66/IP69K
Environmental resistance			Humidity, constant, acc. to IEC 60068-2-78 Humidity, cyclic, acc. to IEC 60068-2-30				
Ambient temperature	min./max.	°C	-25/+70				
Mounting position			any				
Shock withstand acc. to IEC 60068-2-27 Shock period 11 ms, sinus wave		g	> 30	> 30	> 30	> 30	> 50
Terminal cross-sections							
single wire	min. – max.	mm^2		0,5–1,5			
stranded wire	min. – max.	mm^2		0,5–1,5			
Current paths							
Rated impulse withstand voltage U_{imp}		V		4000			
Rated Insulation voltage U_i		V		250			
Overvoltage category/ Pollution degree				III/3			
Approvals							
Technical data On request			UL/CSA/GOST				

			Foot and palm switches latched
General			
Standards and requirements			IEC/EN 60947, VDE 0660
Mechanical life	Operations	x 10^6	> 0,1
Max. operating frequency		S/h	600
Operating force		N	*≤ 60*
Degree of protection IEC/EN 60529			IP67/IP69K
Environmental resistance			Humidity, constant, acc. to IEC 60068-2-78 Humidity, cyclic, acc. to IEC 60068-2-30
Ambient temperature	min./max.	°C	-25/+40
Mounting position			any
Shock withstand acc. to IEC 60068-2-27 Shock period 11 ms, sinus wave		g	> 15
Terminal cross-sections			
single wire	min./max.	mm^2	0,75–2,5
stranded wire	min./max.	mm^2	0,5–2,5
Current paths			
Rated impulse withstand voltage U_{imp}		V	6000
Rated Insulation voltage U_i		V	500
Overvoltage category/ Pollution degree			III/3
Approvals			
Technical data On request			USA/Canada

IEC/EN 609
> 0,1
IP67/IP69K
Humidity
-25/+40